



MCG Casebook

2024-2025 Edition

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Introduction: The Consulting Interview

Welcome to the Chicago Booth MCG Casebook!

You've made it! After a month of recruiting and hours of networking, coffee chats, and meet & greets, you are ready to start preparing for interviews.

The MCG Casebook is designed to help you as you develop interviewing skills and expertise. It offers practical advice on how to approach a typical consulting interview, a resource bank which will be useful for developing case skills, and most importantly, a set of 40+ cases to practice with your colleagues. This casebook is not meant to direct you toward specific case frameworks, fit answers, or thinking patterns. As you will learn, no resource can be the final word on what is 'right' or 'wrong' in this process.

Organization of the book

The book will begin by providing a general overview of consulting interviews, followed by recommendations on how to prepare and budget one's preparation time. It will then explore fit and case interviews in more detail, provide a set of case resources, and finally, include the practice cases.

Purpose of a consulting interview

A typical interview contains two parts: (1) the fit interview, and (2) a business case, lasting between 40-60 minutes total. The interviewer's objective is to gauge the candidate's interpersonal skills, comfort with ambiguity, business sense, logic, quantitative skills, coachability and client-readiness.

Ultimately, the interviewer is looking for someone they would want to work with. Candidates often make the mistake of thinking about the consulting interview in terms of two distinct sections – fit and case, but the interviewer is in fact assessing the above qualities throughout both portions of the interview.

As you prepare, remember to portray a confident, well-rounded, likeable self to the interviewer and try to enjoy the process – you will learn a lot!

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Overview of the 'fit' and 'case' portions (1/2)

The "fit" interview

- The 'fit' part of the interview is often underestimated in its importance. Although the case is unquestionably important, let's face it, you can learn the skills that are needed to succeed as a consultant! But are you a right fit for the firm's culture?
- **If you can get the interviewer to be on your side during the fit, the case part of the interview is more likely to go smoothly** as the interviewer already wants you to succeed!
- While the time allocated to fit varies among firms, every firm will have an official fit portion. Your goal should be to present yourself in a genuine and cohesive manner. In general, the fit portion is composed of four elements, presented on the right.

Resume overview

Your story should flow logically: be prepared to walk through the details of your resume and **explain the rationale behind your decisions.**

Why consulting

You need to explain **why consulting makes sense** for your career progression and how it will help you achieve your long-term goals.

Why firm

Give **specific reasons** why you want to join that firm and how **firm values** or **practices** are aligned with your interests.

Personal experience

Your stories should demonstrate your **leadership, problem solving/analytical, working with others, and communication skills.**

Overview of the ‘fit’ and ‘case’ portions (2/2)

The “case” interview

- Consulting firms use case interviews as a proxy for the day-to-day job. Each case is used to evaluate a range of capabilities, mainly the ones presented on the right.
- The case interview typically begins with the interviewer **describing a business and / or client situation**. The candidate’s job is to work through the information, develop a framework to approach the problem, and refine a hypothesis through analysis as additional information is provided.
- **Structured brainstorming, mathematical reasoning, and analyzing data** will be used to hone in on a recommendation, which the candidate will present succinctly at the end of the case.

The “case” interview

Problem Solving

- Structured thinking in ambiguity
- Combining various types of data
- Analytical rigor
- Business judgment

Client readiness

- Articulating complexity
- Prioritizing issues
- Communicating assertively and with confidence

Personality

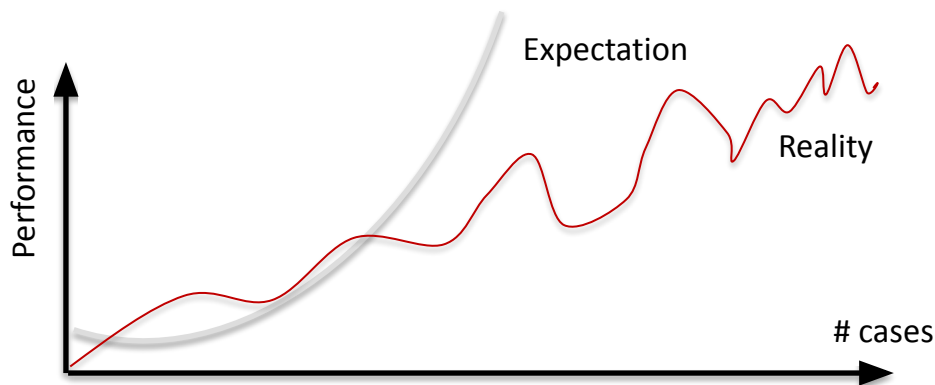
- Ability to deal with pressure
- Confidence and relatability

Interview Prep Overview

Interview Prep: General tips on how to prepare

Timeline

- Most students **begin interview preparation in November** (right after 1Y Consulting Forum), starting cases with other 1Ys, then 2Ys, and eventually with firm reps (if available).
- Make sure you do a **wide variety of cases** which will give you exposure to a variety of **functions** (strategy, marketing, operations, etc.) and **industries** (banking, consumer packaged goods, telecommunications, transport, etc.).
- Be careful not to burn out from doing too many cases and, as a result, become robotic – **you should be excited and enthusiastic to dive into every case!**



Tracking your progress

- As you practice, it is important to **keep track of the feedback** you receive and review it periodically. By reflecting on your cases and internalizing feedback from others, you gain a much better sense of where you stand and the trajectory of your development.
- We recommend you **keep a case log** of all your cases, recording after each:
 - Case name and interviewer (put a cover page on each case).
 - Your framework (and / or the framework you wish you had developed).
 - Key information, calculations, or analyses you missed.
 - Score
 - Lessons/tips
- The **review process is as important as the actual case session** and you should spend as much time reviewing your feedback as you spend actually doing cases.
- After each case, spend some time redoing the case and **reviewing your framework, your calculations, your brainstorming and your recommendation**. *What could you have done better in each one of them?*

Interview Practice

Interview Prep Overview

- 1-2 min:** Breaking the ice
- 10-15 min:** Fit questions
- 1-2 min:** Case prompt & questions
- 3-5 min:** Framework
- 14-20 min:** Analysis + Synthesis
- 2 min:** Recommendation

- 20 mins:** Feedback (only for case prep)

Tips on Receiving a Practice Case

- Make sure your interviewer has **enough time** to give you case and detailed feedback (approx. 60 min).
- **Review the case step-by-step** and ask the interviewer what you did well and what you could have done better in each step of the case.
- **Write down feedback** and ask interviewer for advice if you observe a repeated mistake on your cases.
- **Always thank** the interviewer for their time and feedback! This might be the first of many cases of you two!

Tips on Giving a Case

- Giving cases is a **great way to observe different ways of thinking**, creating frameworks and brainstorming ideas. With time, you will also identify what looks good and what looks bad in an interview.
- **Prioritize giving a case you have already done.** If not, make sure you go through the entire case on your own, including the calculations, otherwise it will be difficult to provide accurate feedback.
- We recommend **learning at least 2-3 different cases** well and giving those to all case prep partners. Your ability to give solid feedback will increase as you become more familiar with the case and as you can compare different performances.

Practice format

- Towards the beginning of your prep, you might prefer to stop throughout the case in order to give advice, retry calculations, repeat delivery of your recommendation, etc.
- As you improve, you will want to **run through the entire case** as it would be presented in an interview, **giving feedback only at the end.**

Case Evaluation

Structure and framework

- ☐ Framework is mutually exclusive, collectively exhaustive (MECE). Make sure the same information is not in two different buckets.
- ☐ Framework is tailored to case context. “Revenue from oil barrel sales” > “revenue”.
- ☐ Framework was used throughout case to guide discussion

Analytical and problem solving

- ☐ Quick and accurate calculations
- ☐ Organized information in a structured way
- ☐ Interpreted graphs and tables accurately, drawing insights quickly
- ☐ Able to keep complex fact base organized and structured
- ☐ Creative in evaluating issues, possible causes and drawing conclusions

Synthesis and conclusion

- ☐ Conveyed conclusions logically and succinctly
- ☐ Conclusions were compelling and backed with evidence developed during the interview
- ☐ Comprehensive, captured all relevant points discussed during the case and answered all questions

Communication skills

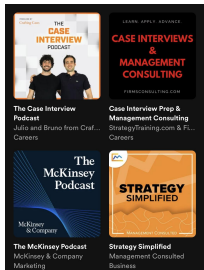
- ☐ Verbalized thought process and communicated thinking at every stage of the case
- ☐ Communicated in a crisp and concise manner without rambling or wandering
- ☐ Built strong rapport with interviewer, case discussion was more a conversation than a monologue

Presentation

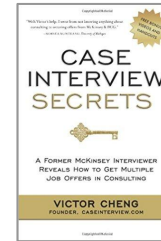
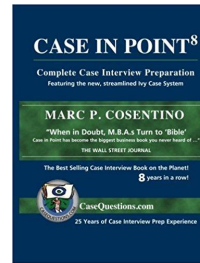
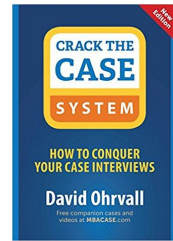
- ☐ Drove the case discussion, assuming an active rather than passive attitude
- ☐ Confident and relaxed
- ☐ Enthusiastic and engaging

External Case Prep Resources

In addition to this casebook, you may want to check out other interview preparation resources. Here are some resources Booth students have found useful in the past:

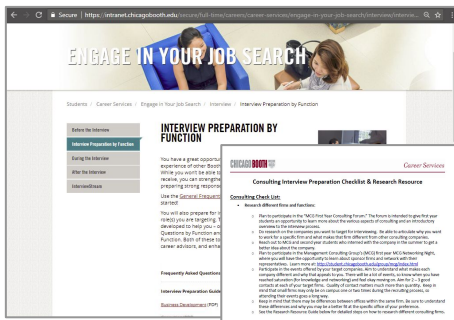


Listening to podcasts on Spotify like *Strategy Simplified* and *The Case Interview*

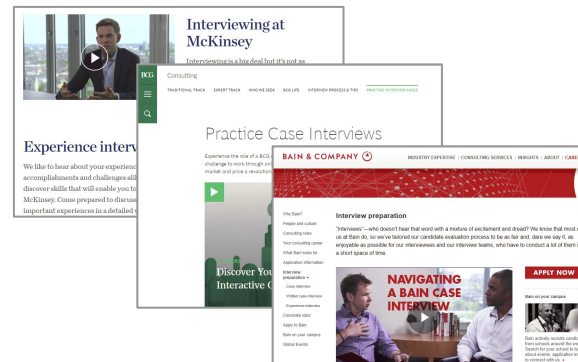


Books like, *Case in Point*, by David Cosentino, *Case Interview Secrets*, by Victor Cheng and *Crack the Case* by David Ohrvall

Online resources like *rocketblocks* that can assist in improving specific segments of casing through drills



Career Services media site: Career Services has archived videos of case interview demonstrations from prior interview events.



Firm specific websites: many consulting firms include case preparation materials on their external websites. These can include practice cases and video examples of various potential solutions.



Casebooks from other schools: Some earlier editions of these have been published externally and can be found online via Google. Notable books include Ross (2005 and 2006), HBS, and Wharton (2009, 2010).

The Fit / Behavioral Interview

The Fit / Behavioral portion of the interview is just as important as the case portion. Do not under-index on preparation.

The Behavioral Interview: Personalize your candidacy

What is the main objective?

Most consulting interviews will begin with some questions which allow the interviewer to understand more about the **candidate's background** and assess the **candidate's fit** for **consulting** and 'fit' **with the firm**.

Why should they hire you and not someone else?

The fit interview offers you the opportunity to **personalize your candidacy**. You should focus on telling a cohesive story: what led you to business school, why you are interested in consulting, why you are interviewing with this firm in this location, why you believe you can add value as a consultant, how the role fits in your long-term professional goals, etc.

What do recruiters say?

Booth consulting recruiters have consistently reported that students don't focus enough on preparing for the fit interview. **Use the fit portion of the interview to show your passion for the firm and show off your track record**. Firms expect that you know yourself well. Save 2-3 weeks before interviews to prepare your stories and tailor your answers to each firm!

Why do you want firm X?

In addition to understanding yourself, you should also understand the firms. From the firms' websites, corporate presentations and networking events, you should have an understanding of what a firm prides itself on, what differentiates it from others, and most importantly, its culture. ***You should tailor your stories to what you've learned about the company.*** You should also have a good understanding of the firms' business models and organizational structures.

The Behavioral Interview: Two categories of questions

Professional questions

These questions are used to evaluate the **trajectory of your career**, how you affected that direction, and where it looks to go from here. Professional questions will probe into your:

- Work history
- Past experiences and accomplishments
- Personal interest or motivations for pursuing consulting
- Reasons for applying with this specific firm
- Location choice
- Aspirations for your career in the short and long term

Example professional questions:

- Why is management consulting a good fit for your career?
- What do you hope to learn at our firm?
- How have your past experiences prepared you for consulting with our firm?

Behavioral questions

Behavioral questions are used to profile your **ability to cope with complex, challenging situations**. They also allow the interviewer to examine the depth of your professional and personal experiences. These questions will probe into:

- Challenging situations and your response
- Your potential to create impact
- Personal thought processes in difficult circumstances
- Experiences working in teams
- Leadership experiences

Example behavioral questions:

- Describe a major professional failure and how you dealt with it.
- Tell me about a time you have used data to change someone's mind.
- What is the most challenging team environment you've worked in?

The Behavioral Interview: Preparation process

Structure your stories

H

High-Level Overview = Give interviewer a sense of overall story and your role in the story

S

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

O

Obstacle = *briefly* define the obstacle to be resolved

A

Action = describe in detail the action **you** took

R

Result = discuss the outcome of that action and its impact on the client / team, etc.

L

Learning = describe what you learned from the experience / situation

The goal of your stories should be to **convey your personality, poise, confidence, capabilities and leadership** ability concisely in **90 to 120 seconds**.

Keep in mind that even during this section, you are being tested on your ability to think and **communicate in a logical manner**, so it is important to keep your answers concise and well structured. Spend most of your time talking about the **actions you took**; minimize the time you spend discussing the situation and / or obstacle.

Other tips

- Create a **spreadsheet with your top 5-10 stories**, that highlight different situations, personal qualities, and skills (i.e. leadership, teamwork, difficult team/client, persuasion, use of data, etc.) organized according to the H-SOAR-L framework
- Create **written outlines of your behavioral answers, using four or five sentences**. The first sentence in this approach is the “newspaper headline”. The next few sentences concisely summarize the main components of the story that will be discussed (the actions you took). The final sentence should reiterate the results / impact of your experience and what you learned.
- If you are preparing for the **McKinsey PEI** (Personal Experience Interview), be prepared to **go deep** into several of your stories and detail your thought process, your feelings, reactions of others and how you responded (what you said / did) in each story.
- We recommend **incorporating fit into your case prep early and often**. Try to add one to two fit questions into every case prep session – two are included at the start of each practice case in this book!

How to answer behavioral interview questions (1/3)

Answer the interviewer's question

Adjust your stories to fit the question. For example, the answers to “tell me about a time you had to persuade someone” and “tell me about a time you had to deliver a difficult message” are *likely* not the same answer. When you’re thinking through which story to tell for Fit questions, start with “does this story answer the question” or “how can I make this story fit the question?”

Focus on *your* contributions / accomplishments

Interviewers want to know what *you* did in the context of a team/project/initiative, so be *very* clear about your contributions. Show off the wonderful things you have done, but give credit for team effort and emphasize your contributions to that team effort (*how is the team better for your being there?*).

Do not lie or overly exaggerate

Tell your stories in their best light and emphasize your contributions and accomplishments, but avoid misrepresenting your role, as that can harm your interview performance.

Structure your thoughts

Interviewers look for candidates who can also think logically and structure their storytelling. See the many examples in this section of how co-chairs from this year and years past have structured their stories.

How to answer behavioral interview questions (2/3)

Prepare multiple stories for common questions

You should have multiple possible responses to most of the common behavioral questions, and particularly for those 'top 10' questions. You can re-tell stories *between* rounds (first round interviews and second round interviews) but you cannot tell stories multiple times within a round, or tell the same story to answer different questions in the same round. Interviewers from the same firm may ask you the same behavioral questions in back-to-back interviews and you need to have two distinct stories ready to share. Interviewers may also ask you to tell them a different story after you've started telling your '1st choice' story.

Be authentic (and thoughtful) in your answers

Interviewers are trained to listen for authenticity (or lack thereof). Being authentic and thoughtful will stand out over inauthentic answers. For example, do not say that your greatest weakness is working too hard. It is much more powerful to be genuine and demonstrate self-awareness through vulnerability (but share what you're doing to improve and grow)

Prepare for follow-ups

Many interviewers will ask follow ups about your behavioral stories – be excited for these! It means the interviewer is engaged and listening, and something you said caught their attention. As you go through the interview prep process, try to think of (and get feedback from other Boothies on) potential questions interviewers may ask in response to a story.

How to answer behavioral interview questions (3/3)

Quality over quantity

While you need to have multiple stories that can answer each prompt, **the same story can likewise answer multiple prompts**. You can't use the same story twice in the same round, but the same story can flex to answer different questions, especially between interview rounds.

Be concise

Tell your story in 2-3 minutes max. Make sure you give the interviewer the main points (*sparknotes*) of your story, and give them the chance to ask follow-up questions if they want to hear more details about a specific part of your story

Tailor to the firm and office

Weave elements of the firm and office culture into your answers where possible. Many firms are transparent about the characteristics they are looking for – make sure your stories touch on those characteristics when interviewing with those firms.

Relax

Remember the person on the other side is a human too. While they are there to evaluate you now, they may also become your best friend when you join the firm. Engage them in your stories, **let your personality come through naturally**, and get excited for their questions.

Top 10 behavioral questions to prepare for

You should prepare and practice answers to all common questions on the next slide, but make sure you're able to answer the below questions in a succinct and compelling way, tailored to your experience and interests. Remember to leverage H-SOAR-L in answering these questions, and shoot for 1-2.5 minutes to tell the full story.

1. Walk me through your resume (*no need for H-SOAR-L*)
2. Why consulting / why [xyz] firm / why [xyz] office (*no need for H-SOAR-L*)
3. Tell me about a time when you faced a significant challenge
4. Tell me about a time when you dealt with a conflict with your team/manager/client
5. Tell me about a time you had to persuade your team/manager/client of your idea
6. Tell me about a time you failed (and what you learned from it)
7. Tell me about a time you had a large impact on a team/teammate/project
8. What is your proudest accomplishment (not necessarily professional)
9. Tell me about a time you had to deal with ambiguity/operate under a tight deadline
10. Tell me about a weakness you have / a challenge you face professionally?

Common Behavioral Questions

Professional questions

- ☐ Tell me about yourself/ Walk me through your resume
- ☐ Tell me who are you, not in your resume, that I can read
- ☐ Tell me more about [a specific bullet on resume]
- ☐ Why Consulting?
- ☐ Why did you choose Booth?
- ☐ Why Consulting?
- ☐ Why Firm X?
- ☐ Why firm X over other consulting firms?
- ☐ Why city Y? What parameters did you use to evaluate?
- ☐ Which classes have you enjoyed the most and why?
- ☐ What does management consulting mean to you?
- ☐ Who do you look up to professionally and why?
- ☐ How would you evaluate the business of one of your previous employers?
- ☐ What do you like to do for fun?
- ☐ What are three qualities your friends would use to describe you?
- ☐ What are your major strengths?
- ☐ What are your short and long term goals?
- ☐ Where do you see yourself in 5-10 years?
- ☐ What are your areas for improvement (weaknesses) and have you been working on them?
- ☐ What distinguishes you from other candidates I am meeting today?
- ☐ What is one thing you want me to remember/ask/know about you?
- ☐ How would your co-workers / classmates describe your leadership style?
- ☐ Why should I hire you?

Behavioral questions

- ☐ What accomplishment are you most proud of?
- ☐ Tell me about a time you have used analysis to guide your decision making process.
- ☐ Tell me about a time when you had to persuade someone (team/client) to do something they initially did not want to do.
- ☐ Tell me about a time when you had a disagreement with your boss/team and how you handled it.
- ☐ Tell me about a time when you had to lead a team through significant change.
- ☐ Tell me about a time when you had to deal with a difficult teammate.
- ☐ Tell me about a time a time when you had to deal with an ambiguous situation.
- ☐ Tell me about a time when you had to work with a lot of ambiguous data and how you handled it.
- ☐ Tell me about a time when you worked with people who approached things differently than you.
- ☐ Tell me about your biggest failure and what did you learn with that.
- ☐ Tell me about a time you've faced a challenge at work and what have you done to overcome it.
- ☐ Tell me about a time you had to make a difficult decision.
- ☐ Describe your dream project
- ☐ Looking back at your professional experience - what is the one thing you would change/ do differently?
- ☐ What was the worst team you have had and why do you think it was bad?
- ☐ Tell me about a time when you set your goals too high? (too low?)

Example of Fit interview prep approach #1

This is not necessarily the best or only way to prepare for the Fit interview, but it is one possible approach

For reference – this is meant only to demonstrate 1) a method of documenting and structuring your stories and 2) an example of the level of detail that can be cut from your story to fit the expected answer timeframe.

Question: Tell me about a time you had to deal with ambiguity / had to manage complexity

	Full-Text Answer / Details	Interview Response Text (1-2.5 minutes)
H	We were brought into a retailer who had invested in fixed asset capacity on forecasted growth that did not materialize and wanted to develop a playbook for what to do with this excess capacity. I was specifically responsible for 4 main components of our work: financial modeling, sourcing go-to-market offering opportunities, then identifying and ranking potential buyers, and helping socialize our work with the client to ensure smooth adoption and transition of ownership during implementation.	I'd like to tell you about when I helped a retailer identify a new go-to-market concept for them to sell excess fixed asset capacity.
S	Tasked with delivering on a very broad and multi-faceted scope on a tight timeline. I was specifically responsible for the following functional areas while managing their impact on other efforts of the team and client: <ol style="list-style-type: none"> 1. Develop overall financial model to assess multiple go-to-market solutions being developed and prioritize investment in capabilities and sales efforts 2. Develop specifically the inputs for the sourcing go-to-market offering, which entailed selling excess sourcing capability and capacity in a marketplace format 3. Identify and rank list of potential buyers, ranging from smaller retail players to startups where we could exchange our capacity and capabilities for an equity stake in their businesses (because they are cash poor) 4. Help onboard new member of team in charge of IT workstream 	Retailer forecasted a lot of growth, but growth didn't come and there was excess capacity – especially in Supply chain, procurement and back of house. I was responsible for identifying ways to fill this capacity.
O	<ol style="list-style-type: none"> 1. Really broad scope 2. limited client input and direction 3. limited audience mandate (limited number of clients were allowed to know about this) 4. Limited data availability, limited internal expertise, new project area for project team and client 	My challenges included broad scope and limited client input as this was a relatively secret project not well publicized internally.
A	Identified and worked directly with internal experts (SMEs) to develop GTM (go-to-market) frameworks and playbooks for different functional areas. I owned the above pieces, so developed a deeper understanding of the sourcing and indirect procurement landscape where I had limited prior background knowledge, and this became one of our leading service offerings. I worked with their heads of merchandising, strategy, supply chain, and procurement to identify relevant benchmarks, source comparable from the market, and develop playbooks and marketing materials. I also needed to understand impact on current operations so that was part of my scope and presentation as well.	To solve for this I took a 3-step approach: <ol style="list-style-type: none"> 1. All products need a buyer – start with who would buy different services, from startups to smaller retailers and brands 2. Define metrics for success – how will we compare and sell our product? 3. Define our fit with delivery - Where do we have the highest potential to sell? I worked shoulder to shoulder with the client to bring them along with this process and ensure buy-in and smooth transition.
R	Developed go-to-market plan and timeline with complete client buy-in (it's now launched as [redacted] brands). My analysis supported the ultimate prioritization of services to launch and ultimately I continued to follow up with the client and our project teams after I was rolled to a new opportunity to ensure its ultimate success.	The result was I presented a compelling thesis to build this offering complete with a tactical 'stand up' plan and full financials that the client later adopted.
L	Major takeaways and learnings include that it is important to measure outcomes because only through that can you see progress. It is important to get buy-in from the client and that involves iterative and 'hands on' work to make sure that handoff is smooth and they are bought in. It is important to take a structured approach when facing ambiguity with limited expertise or background in the subject area.	Several of my learnings from this were: <ol style="list-style-type: none"> 1. It's exciting to see things I proposed come to life 2. Have a clear and hypothesis-driven structure 3. Setting a way to measure outcomes is important

Example of Fit interview prep approach #2

This is not necessarily the best or only way to prepare for the Fit interview, but it is one possible approach

For reference – this is meant only to demonstrate 1) a method of documenting and structuring your stories and 2) an example of the level of detail that can be expected when telling stories (or shorter)

VII. Tell me about a time you:

- Had to convince leadership of your ideas
- Had to convince someone to change their mind
- Had a conflict with your manager
- Had to persuade someone to do something you did not want to do
- Learned from mistakes and implemented improvements

Headline: This is a situation where the CRO at Flexport and I fundamentally disagreed on how to reorganize the sales division, and how I convinced him of my point of view

Situation:

- There was a huge discrepancy in the sales performance by office and a major reason for this was the lack of sales management at the company.
- To resolve this issue, Ben wanted to consolidate the sales team to New York and LA

Obstacle:

- I did not agree with his solution as I thought it would create more issues.
 - It would force mass migration of employees resulting in unnecessary costs,
 - it would lead to a call-center like atmosphere resulting in a decrease in employee satisfaction rates and higher turnover,
 - it would decrease our effectiveness as managers (as we would go from managing 10 to 50 sales reps) resulting in lower productivity

Action:

- In order to validate my reasoning, I created a PIPADE: a google document highlighting the problem at hand, the proposed solution, the advantages and disadvantages of the solution, and any alternate solutions
- After I create the preliminary google doc, I invited all the counterparties who would be affected by this change to add their thoughts as comments: GMs, People Ops, Marketing Ops, Operations etc.

Result:

- The document received over 500 relatively impassioned comments from stakeholders across all functions and offices
- Ben and I met in person and he saw how centralized the sales organization was not the answer to increase productivity
- As a result, we kept the sales reps local, however Alex and I took more ownership of regional offices with Atlanta, Chicago and Philly reporting into me, and Texas and San Francisco and Seattle reporting into her

Learning:

- Data is important to test your hypothesis and show results
- It's important to have alternatives not just shoot down other people's ideas

VI. Tell me about a time you:

- Faced ambiguity or an ambiguous situation
- Created an innovative solution
- Were self-motivated
- Changed the direction of a team
- Analytical accomplishment
- Used data to come to a conclusion

Headline: This is a situation when Flexport wanted to set up another office in the NE and I relied on data to suggest the most optimal location

Situation:

- The NY office had grown at an unprecedented rate
- Therefore, the idea of setting up a secondary office in the NE – almost like a hub and spoke model – where costs would be a low and a high cluster of clients would be able to get boots on the ground service, came about

Obstacle:

- Since this would be the first satellite office, the process by which to decide the optimal location had not been mandated

Action:

- Since I was closest to the clients, I took on this task
- I used our central CRM to access data of all NE based companies that imported goods into the US
- I filtered out anything that Flexport couldn't work with: dangerous goods, unsupported trade lanes etc.
- I then focused on companies that shipped more than 200 times a year [SMB+MM categories] and mapped the companies out by geography [within 30 miles of a major city]

Result:

- What I noticed was that there was a huge Mid-Atlantic market that was largely untouched with clients that valued in person business relationships
- This market was 2x that of New England's – which was the favorite amongst most people
- Based on this recommendation, we actually open an office in Philadelphia

Learning:

- I learnt the importance of data: how it's indisputable, how it can provide clarity in an ambiguous situation, and how it's the basis of great decisions

Example of Fit interview prep approach #3

Prompt: Tell me about your greatest accomplishment

Headline

As a 25-year-old, I came in to be interim-CFO of a struggling business facing bankruptcy. Looking back at the company when I left vs. when I arrived is my greatest accomplishment.

Context

- Company was on verge of bankruptcy
- Took over interim-CFO duties as a 25-year old of a \$70mm business with the need to help address.
- First thing I did was observe, meet with all the different departments and understand what the issues with the company are.
- From those discussions and analyses I understood the three major buckets I had to address were profit, culture, and lender relations

Actions

Action 1: Diagnosis

Met with different core functions of the business to understand:

- How the business and industry functioned;
- Where the pain points were;
- and collected information to analyze and develop solutions.

Action 2: Profit

- 1) Transition fill room from Los Angeles to Tijuana, Mexico
- 2) Increased fill rates (revenues) by working with operations team to improve purchasing and rationalize stock keeping units (SKU)s.

Action 3: Culture

- 1) Assisted CEO in recruiting new head of operations in Mexico, CFO
- 2) Cleaned up the financial statements – errors in the source files (had to go through 2-3 years of data to clean and tie to audited financials).
- 3) Created a ‘do it right first time’ culture.

Action 3: Lender Relations

- 1) Opened up transparent communications and monthly meetings
- 2) Developed weekly cash flow reports

Results

Company was able to perform much better, had a stronger management team to take over, and performance began to improve by the time I left. Had initial discussions about going to lender as pre-MBA intern.

Takeaways

- Learned how to be an operator, lead a team, the difficulty of not just developing a strategy but implementing it.
- Most of the time things that you get assigned as someone who is young has a short deliverable – you get small deadlines,

Overview

Interview

Fit Prep

Case Prep

Resources

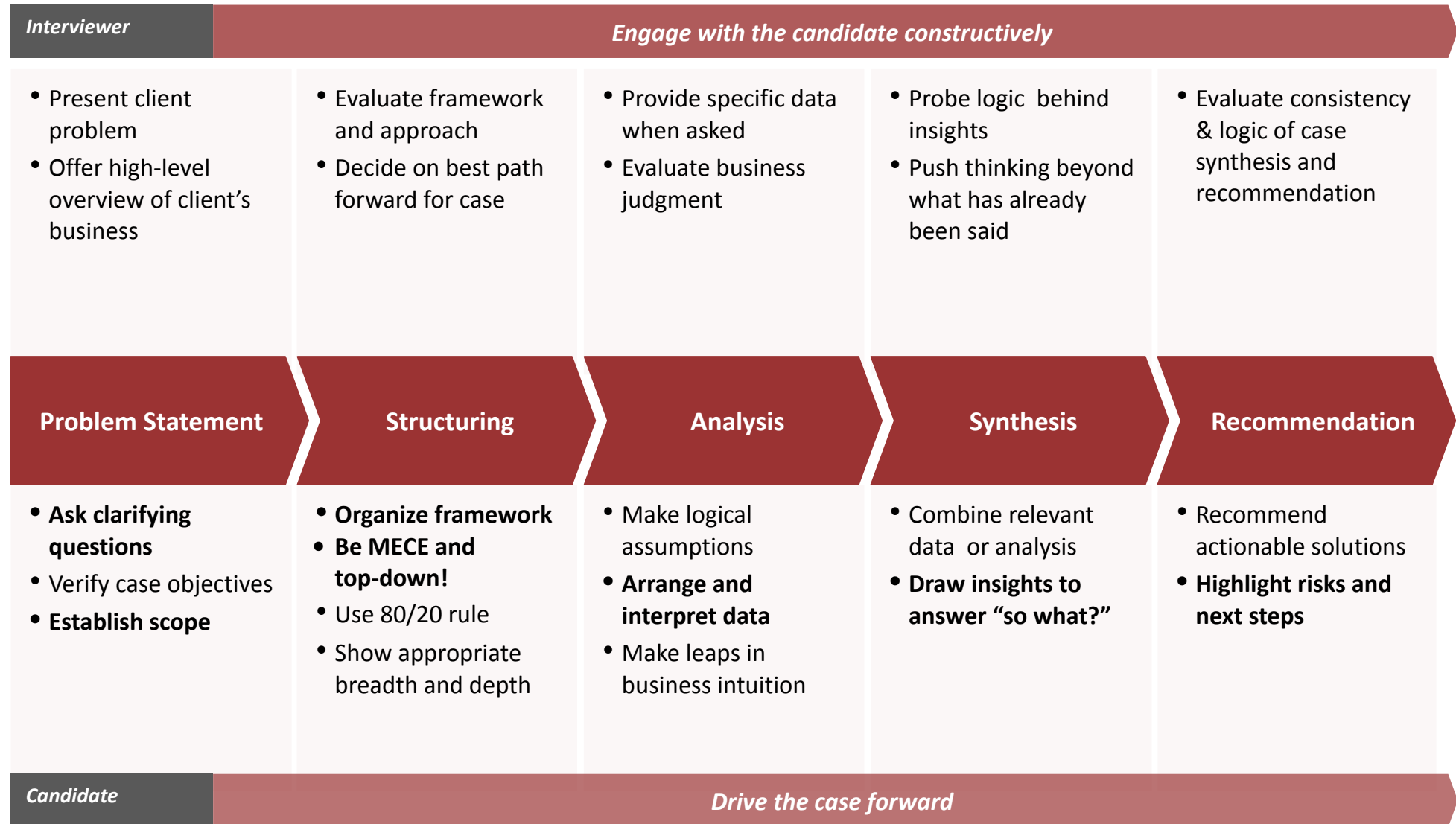
Example of Fit interview prep approach #4

This is not necessarily the best or only way to prepare for the Fit interview, but it is one possible approach

Question	Story	Situation	Obstacle	Action	Result	Learning
Difficult Team	Developing Engage	The product team wanted to develop a new survey solution in the HR space and wanted my team's expertise in developing the content for it. I was the boots on the ground person from my team.	My product counterpart had ideas for what she wanted the content and scales to be, but I put my foot down - I thought we should use research to identify what HR professionals thought was important to ask about, test the questions, and test the scales. It went up the chain of both of our teams and ultimately we won.	We did the research to choose the topics, content and scales. The original scope timeline of the project was pushed back 3 weeks to get the research in, and the design of the product was altered to fit the scales we chose.	The product didn't sell well. Customer support learned from prospective and existing customers that they were unhappy with the cadence (something we didn't test), didn't know what to do with the information (another thing we didn't test), and that while the HR professionals were the purchasers of the product, general managers were the users of the product and didn't find the questions useful.	I feel good when I put my foot down on something that I think is important to success and is being overlooked. However, I recognize that this is only possible (or smart) when you have others on your team that are aligned with your idea and also think its important. I also learned that there is a precarious balance between business needs and precision/accuracy and that needs to be respected to some extent.
Lead a team	Managing communication of customer satisfaction / employee satisfaction relationship	Preliminary research on the relationship between thinking about customers and employee satisfaction was released to the entire product marketing team	Junior team members, then increasingly more senior team members joined and replied to the email chain with their excitement - and all with incorrect representations of the data.	As the less senior teammates sent out emails I wrote them personal emails correcting their language, but when the VP of Customer emailed and I realized the CMO was on the channel I sent out an email teaching the whole team how to talk about data and what the repercussions are of doing so incorrectly.	The most senior members on the email chain thanked me for nipping the conversation in the bud, and people reached out to my manager about how I handled the situation. I then was asked to write a public blog post to teach our customers how to talk and write about data.	First, is that assuming malice is a good way to take any situation into a downward spiral. Second, is that being an expert requires a great deal of empathy.

The Case Interview

Overview of case structure and skills evaluated



Problem Statement

Problem Statement

Structuring

Analysis

Synthesis

Recommendation

Clarifying questions:

B

Business model = ex. How does the company make money? Are we talking about one product or a mix of products? How is the company structured? Etc.

G

Geography = in what region / country / city does the company operate? The company might be global, but the case may only consider one region.

O

Objective = many case prompts may be purposefully obscure, such as “the company is facing issues, what should they do”. Always clarify the client’s obj. before moving on.

T

Timeframe = do we have a timeframe for increasing revenues X% or for recovering an investment? (ex. company has to breakeven in 3 years)

Before structuring your framework, make sure you understand the following:

1. The main objective of the case (i.e. profitability, revenue expansion, cost reduction, etc.).
2. The information given to you (you may repeat your notes to verify you interpreted the prompt correctly).

Structuring your framework

Problem Statement

Structuring

Analysis

Synthesis

Recommendation

Why is the framework important?

A good framework will guide you throughout the case. It ensures that your response will be **structured, logical and thorough**. Additionally, the interviewer will begin to draw conclusions about your candidacy based on your **ability to break down the problem into clear buckets/categories**.

Applying frameworks

Never use the popular frameworks directly and do not blindly memorize and apply frameworks! Over-reliance on a specific framework can make a candidate appear robotic. Instead, you should **customize the framework** to the question you are being asked and be creative with your analysis.

Be hypothesis-driven

Based on the case information received and the framework you have developed, you should **formulate an initial hypothesis** about the problem you are evaluating. Throughout the case, **step back occasionally to evaluate and adjust your hypotheses** based on new data.

Keep quality notes

Sketch out your thoughts on paper, use **large handwriting**, and tell the interviewer what you are doing. **Be as structured as possible** when you are giving your thoughts on an issue or performing calculations.

It is a good practice to use a **new sheet of paper for each phase of the analysis**. **Imagine you are sketching out slides in a PowerPoint presentation** that you will use to present to the client. This will allow you to stay organized and visualize how the case has progressed

Analysis + Synthesis

Problem Statement

Structuring

Analysis

Synthesis

Recommendation

Structure your thinking

Before doing calculations, talk through your logic so that the interviewer understands your approach.

“So what?”

If the data proves your hypothesis to be invalid, use your framework and proceed to the issue with the next highest priority and develop a new hypothesis.

As you work through more data, it is a good idea to **verbally summarize where you are, what you have learned, what information means in diagnosing the problem and where you are heading next**

Math mistakes

Do not panic! Candidates have successfully obtained offers despite making (sometimes several) mistakes in calculations. The interviewer is not only **assessing** how you think, but also **your personality**.

If the interviewer helped you identify the mistake, **say “Thanks” (don’t say Sorry!) and move on with confidence and composure.**

Additional tips

Get out of your quant comfort zone during practice. Prioritize calculations in the same way you prioritize issues (i.e. Is this calculation relevant to the client / problem? Will it tell me needed information to drive the case forward)

Recommendation

Problem Statement

Structuring

Analysis

Synthesis

Recommendation

Finishing the case

End your interviews with a **succinct recommendation** which provides the **answer first**. Do not recap your path of analysis; instead, **draw on key facts to give a clear answer to the central questions** of the case.

Keep a list of **key findings** from each piece of analysis on **top of the each paper (headline) used throughout the case**. Depending on your interviewer's style, you may have time (30-60 seconds) to prepare a response or you may be asked to respond immediately.

The recommendation

Excellent recommendations usually include:

- A **succinct, actionable recommendation** that directly addresses the problem.
- **High level description of relevant analyses from the case**.
- Discussion topics for **next steps** and **risks/points of attention**.

Engaging with the interviewer

Remember that the interviewer is **assessing whether they would like to work with you**. Keeping the interviewer engaged and interested in you and your thought process is crucial to success.

- Keep a **steady pace** throughout.
- Bring some **personality** into your analyses of problems.
- **Involve the interviewer** in your thinking and calculations.

End of Interview – Q&A



Examples of questions:

- ☐ Tell me a little bit about your background and your journey with firm X
- ☐ What do you like the most about firm X?
- ☐ Why did you decide to specialize in Practice Y?
- ☐ I'm very interested in your practice, can you tell me a little bit more about it?

Quality wrap-up questions

- After the case, you will typically have a few minutes to ask any questions you might have. Students often make the mistake of under-preparing for this section. **Be sure to prepare by doing thorough research about the firm beforehand.**
- Prior to the interview, research your interviewer's background in advance. Find points in common with your interviewer to explore in this section.
- **The interviewer will use this to assess your candidacy and how much you want the job.**
- Remember that each interviewer does this several times a day – **use this as an opportunity to stand out!**

Additional Case Tips

- **Practice!** Get comfortable and confident with a style that works for you across a variety of case types and industries. Practice solving different problems while demonstrating your personality. Cases will always require some level of creativity and conversation.
- **Track your performance, feedback, and progress in a case log.** Give – and solicit – structured feedback during practice! Feel free to leverage the MCG interview feedback template (found in the MCG Google Drive) or come up with something that fits your learning and feedback style.
- **Once you are in the interview room, prior networking or recruiting does not matter** – you must impress the person sitting across from you.
- **Understand different firm's casing styles.** Ask second-years to provide first-hand perspective on different case / firm styles during the interview process.
- **Prepare, prepare and prepare.** The biggest criticism reported to Career Services about Booth students is that **people underprepare for fit and case!** Using canned frameworks, coming in with pre-drawn lines on your paper, and doing too many cases can hinder students' ability to think on the spot and be flexible. Don't fall into this trap! Remember that the case should be an actively engaging conversation.
- **Case prep is not a linear process.** Remember that there is a lot of luck and randomness in the case process. Setbacks will occur, but staying resilient is an important part of succeeding.

How to structure your paper

- Organize each separate analysis on a different piece of paper and write the main conclusion at the top of the paper, as a headline, to help you organize your thoughts and put together a recommendation quickly!

Framework

Should Company X expand in China?			
Global producer of CPG....	<u>Chinese Mkt</u>	<u>Revenues</u>	<u>Costs</u>
	- Competitor structure - Target mkt	- Price point x volume expected	- Cost/unit - Fixed costs
	<u>Other</u>	<u>Entry Options</u>	
	- Cultural - Regulation	- Greenfield - Acquisition	

Analysis - math

Market in China = 3B	
Tt mkt 1MM units 4 big players...	<p>Potential Market = Total Market x % segment x % share captured x Price charged</p> <p>Potential Market = 3B</p>

Analysis - brainstorming

Ways to improve revenue		
<u>Product</u>	<u>Channels</u>	<u>Advertising</u>
-Reduce quality to increase penetration	-Explore other sales channels	-Advertise with local markets

Recommendation

Enter Chinese market	
<ol style="list-style-type: none"> Market of 3B Breakeven of x years Opportunities to increase revenue 	
<u>Risks</u>	<u>Next Steps</u>
Competitor's reaction	Evaluate JV with current player

How to communicate throughout the case

- Communication skills differentiate an average caser from a stellar caser. You must be able to communicate with the interviewer throughout your analysis, and share the insights you uncover.

Framework

Should Company X expand in China?			
Global producer of CPG....	<u>Chinese Mkt</u>	<u>Revenues</u>	<u>Costs</u>
	- Competitor structure - Target mkt	- Price point x volume expected	- Cost/unit - Fixed costs
	<u>Other</u>	<u>Entry Options</u>	
	- Cultural - Regulation	- Greenfield - Acquisition	

In order to assess this expansion, I'd like to take a look at market structure, possible revenues and costs we can obtain, our entry options and any other aspects, such as cultural fit.



I'd like to start my analysis by evaluating the Chinese market. China is a large, promising market from the outside, but I understand it can be quite closed, and I imagine our client would have to compete with local players. I want to see how fragmented this market is, and how our competitors stack up.

Then, I'd like to take a look at the profitability of operating in China,



Common mistakes during the case

Framework is too generic

- Interviewers see upwards of 12 candidates per day, and a **framework that is unique and tailored to the client's business problem can be a major differentiator**.
- The interviewer can tell whether the candidate is thinking critically about the business problem or simply **regurgitating a framework that was memorized in advance**.
- One simple way to tailor a framework is to **make it industry-specific**. For example, if the client is in the oil exploration business, a cost category should be written as “pipelines” rather than “transportation”.

Framework is not MECE

- The candidate's framework should be *mutually exclusive and collectively exhaustive* (MECE).
- In other words, **the categories on a framework should not overlap at all** (e.g., you should not have “competitors” listed twice in two different places in your framework).
- This mistake is too obvious and indicates that the **candidate is disorganized and has messy logic**.
- The candidate should include all potential issues that they think are relevant to solving the client's business problem.

Objective not clear

- If the candidate **fails to ask clarifying questions at the beginning of the case**, it prevents them from narrowing the scope of the case and writing a more tailored framework.
- Common questions include: “What are the client's goals and objectives?” “What is their business model?” “Where does our client operate?” “What are the various steps in the manufacturing process?” “What benefit does the product provide?”

Unstructured request of data

- This problem arises when the candidate **asks for data and clarifying materials haphazardly rather than systematically asking questions** that relate to their initial hypothesis.
- For example, a weak candidate would ask, “Do we have any information on costs?” while a strong candidate would ask, “Given that our client is operating in the pharmaceuticals industry, I think fixed costs, and specifically R&D, could be major drivers of profitability. Do we have any information to support this?”

Jumping around

- **The candidate should move systematically through each “branch” of their framework and not jump in a disorganized manner between areas of analysis (“buckets”).**
- Similarly, when doing a brainstorming exercise, the candidate should use organized buckets and try to fill one bucket with ideas before moving on to the subsequent bucket.

Interview Prep Resources

Resources: Overview of different sections

The following resources can be used to assist in your case prep. We recommend reviewing each section and returning to these pages as your progress in your practice. The resources include:

I. Sample case frame-works [P. 38](#)

- Illustrative frameworks as examples of what to analyze
- These examples are meant to be simple – you can use them as a base to build on
- Adapt frameworks to the problem

III. Case math [P. 50](#)

- Tips, tricks, and shortcuts to use during quantitative exercises
- Purpose is to get you to the insights quicker – not to make you better at math
- List of useful info for market sizing

IV. Clearing charts [P. 55](#)

- Approaches to clearing common types of charts you will see during case interviews

II. Industry Checklist [P. 62](#)

- Long-list of industries to study
Summaries of key industries can be found in the MCG Industry Overview

VIII. Zoom Best Practices [P. 63](#)

- Covers A/V, dress code, other recommendations for virtual casing, behavioral interviewing, and general guidance on networking/virtual interactions

I. Sample case frameworks – Growth strategy

Case problem: Client would like help defining a near-term (3-5 year) growth strategy.

(Growth strategies typically refer to revenue growth, but can be clarified with interviewer)

Market Analysis	Organic Growth	Inorganic Growth
<ul style="list-style-type: none"> Market Growth <ul style="list-style-type: none"> Market size & growth Drivers of demand Competitive Landscape <ul style="list-style-type: none"> Market share/ Fragmentation Barriers to entry Consolidation over time Differentiation Recent trends <ul style="list-style-type: none"> Technological innovations Regulatory changes 	<ul style="list-style-type: none"> Existing Products (sales ↑ in short-term) <ul style="list-style-type: none"> Price Δ: elasticity effects on volume Volume: Sales + Marketing Grow market size <ul style="list-style-type: none"> New distribution channels New customer segments New products / business (sales ↑ in long-term) <ul style="list-style-type: none"> Expand Product Mix <ul style="list-style-type: none"> Add-on features Differentiate into new products/services Higher R&D cost Competitive response 	<ul style="list-style-type: none"> M&A (suitable for short-term) <ul style="list-style-type: none"> Synergies Cannibalization Fit with current portfolio Investments <ul style="list-style-type: none"> Investment / entry cost & breakeven period ROI Capabilities viability

Note: This framework is illustrative. It represents what could be written down in 60-90 seconds to structure candidate's thinking. Other illustrative frameworks will be provided in MCG Public Toolkit.

I. Sample case frameworks – New market entry

Case problem: Should a banana producer start selling coconuts?

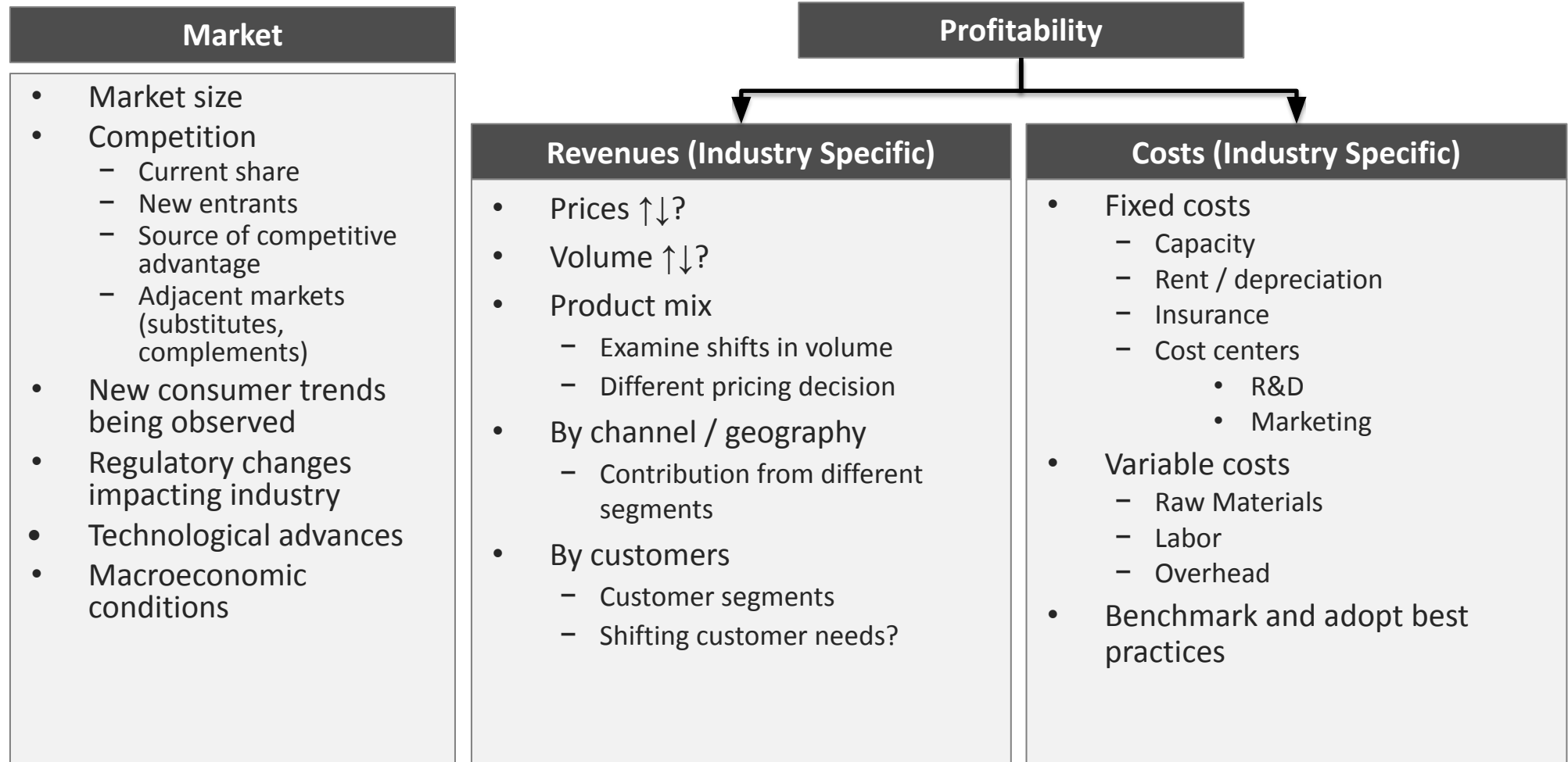
(Clarify objectives with interviewer – Are we entering for revenue growth, profitability, market share etc.?)

Coconut Market	Company	Entry Profitability
<ul style="list-style-type: none"> Market size / growth <ul style="list-style-type: none"> Segmentation Demand for Product Key Market Drivers Customers <ul style="list-style-type: none"> Largest segments Preferred channels Preferences for coconut consumption, i.e. juice, whole, etc. Competition <ul style="list-style-type: none"> # of competitors and market share – concentrated vs fragmented Barriers to entry Competitive response 	<ul style="list-style-type: none"> Product mix fit Brand fit <ul style="list-style-type: none"> Cannibalization Alienating core consumers Capital / Financial Capabilities Supply / Distribution chain capabilities (operational) Manufacturing Capabilities Managerial Capabilities 	<ul style="list-style-type: none"> Revenues <ul style="list-style-type: none"> Pricing decision (commodity/premium, WTP) Expected volume Synergies to sell Product mix <ul style="list-style-type: none"> What kind / type of coconuts? Cannibalization Costs <ul style="list-style-type: none"> Initial investment Ongoing fixed costs (overhead, SG&A) Ongoing variable costs (labour, COGS) Opportunity costs Investment: Breakeven time period / ROI target?

Note: This framework is illustrative. It represents what could be written down in 60-90 seconds to structure candidate's thinking. Other illustrative frameworks will be provided in MCG Public Toolkit.

I. Sample case frameworks – Profitability

Case problem: Despite strong historical performance, margins have been declining



Note: This framework is illustrative. It represents what could be written down in 60-90 seconds to structure candidate's thinking. Other illustrative frameworks will be provided in MCG Public Toolkit.

I. Sample case frameworks – Merger & Acquisition

Case problem: Should a private equity (PE) client acquire a company?

Market	Target Company	Transaction/Deal Economics
<ul style="list-style-type: none"> • Size of market & growth • Trends <ul style="list-style-type: none"> – Tech innovations – Regulatory changes • Customers <ul style="list-style-type: none"> – Segments – Buying behavior – Channels • Competition <ul style="list-style-type: none"> – Market share – Barriers to entry – How do players compete (price/service/etc.)? 	<ul style="list-style-type: none"> • Capabilities / sources of competitive advantage <ul style="list-style-type: none"> – Customer loyalty – Patents – Distribution network / relationships – Quality – Brand equity – Management team – Operational improvement • Portfolio Fit <ul style="list-style-type: none"> – Synergies/cannibalization – Expertise in industry • Risk <ul style="list-style-type: none"> – Cultural fit – Competitive response 	<ul style="list-style-type: none"> • Deal economics <ul style="list-style-type: none"> ○ Cash Flows <ul style="list-style-type: none"> ■ Revenue ■ Costs ○ Investment: ROI, payback period ○ NPV vs deal price • Exit opportunities • Due diligence

Note: This framework is illustrative. It represents what could be written down in 60-90 seconds to structure candidate's thinking. Other illustrative frameworks will be provided in MCG Public Toolkit.

I. Sample case frameworks – Cost reduction

Case problem: What should a conglomerate looking to reduce costs do?

Industry Dynamics	Internal Costs	External Costs
<ul style="list-style-type: none">• Analyze existing processes across value chain<ul style="list-style-type: none">– Identify critical processes• Identify outliers / trends• Benchmark<ul style="list-style-type: none">– Competition– Across business units– Past performance• Supplier power	<ul style="list-style-type: none">• Labour<ul style="list-style-type: none">– Efficiency– Safety– Shifts• Economies of scale• Rent vs own• In house vs outsource• Risk:<ul style="list-style-type: none">– Increased turnover in high-performing labour– Decreased workforce morale	<ul style="list-style-type: none">• Supplier• Distributors• Cheaper Sources• Discounts of volume• Risk: quality drop

Note: This framework is illustrative. It represents what could be written down in 60-90 seconds to structure candidate's thinking. Other illustrative frameworks will be provided in MCG Public Toolkit.

II. Sample brainstorming questions and frameworks

Common brainstorming questions

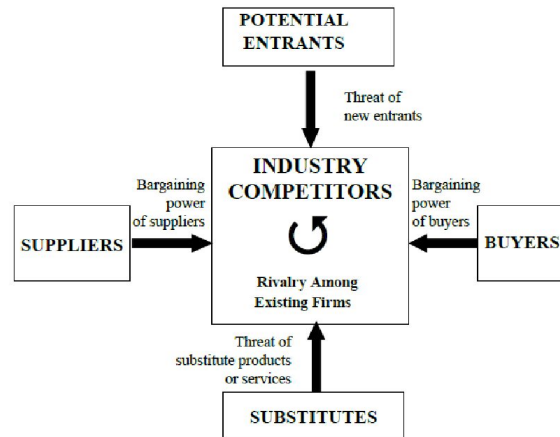
- How do you grow revenue?
 - Existing products
 - New products
- How do you reduce costs? Sample frameworks:
 - 2X2 \$ Investment required and time to implement
 - Value chain analysis
- What are the source of synergies in this acquisition?
 - Revenue synergies
 - Cost synergies
- How would you price the product?
- What are the factors affecting the price of the product / service?
- Where do you find information about a product / service / industry etc.?
 - Surveys
 - Experts
 - Market research
- Pros and cons of an acquisition / strategic partnership
- Pros and cons of diversification
- Pros and cons of outsourcing
- What do you need to analyze a particular investment decision?
- Considerations for launching new technologies
- Commodity vs specialized products

Important considerations while brainstorming

- Always be structured and write down the brainstorming – rambling hurts you!
- Use 2-3 buckets while brainstorming – make sure the buckets are MECE
- Don't merely list down the points
- Try to have 2-3 points under each bucket
- Be creative – don't use canned memorized points while brainstorming
- Be case specific

II. Supplemental case information – industry analysis

Factors to consider in an Industry Analysis



Five Major Competitive Forces
(Porter 1980)

- **Industry structure (usually one of the following)**
 - Perfectly competitive (price = marginal cost) -> easier to entry and capture market share
 - Oligopoly -> more difficult to entry, may pace price war
 - Monopoly (price > marginal cost)
 - Important to assess key players and their respective market-share

- **Relevant industry conditions**
 - Size (in volume and USD)
 - Profitability
 - Growth (historical and trends)
 - Segments (high vs low end)
 - Regulation
 - Technological advances
- **Barriers to entry / exit** (also see Growth Strategy page)
 - Fixed costs component / economies of scale
 - Learning curve
 - Access to distribution channels
 - Access to suppliers
 - Regulation of assets (i.e. utilities)
- **Key drivers for success**
 - Consumer insight-> where is the value for consumers?
 - Technological advances
 - Brand equity
- **Current substitutes**
 - New technologies and consumer trends usually create new substitutes
- **Current trends**
 - Cost drivers (outsourcing, new competitors, etc.)
 - Product trends
- **Value chain**
 - Vertical chain of productions including suppliers and distributors
 - Is the industry vertically integrated?

II. Supplemental case information – profitability analysis

Factors to consider in Profitability Analysis

$$\text{Profit} = \text{Revenues} - \text{Costs}$$

Revenues = Price * Volume

- Factors affecting prices
 - Elasticity of demand
 - Product mix
 - Differentiation
 - Customer segment (low end vs high end)
- Factors affecting volume
 - Internal
 - Distribution logistics, supply chain
 - Inventory management
 - Capacity
 - External
 - Competition
 - Customer trends
 - Substitutes / complements
 - Market trends (declining market, regulation, etc.)

Costs = Variable Costs + Fixed Costs

- Variable costs (must vary with each unit sold)
 - Materials
 - Fuel
- Fixed costs (do not vary with each unit sold)
 - Labor (can be semi-variable)
 - Property, plant and equipment
 - Operating costs: distribution, marketing, R&D, SG&A
- Other cost considerations
 - Sunk cost bias
 - Capacity utilization and impact on total cost per unit
 - Benchmark costs with key competitors
 - Relative percentage of cost components
 - Cost allocation across multiple products
 - Total costs, average variable costs (economies and diseconomies of scale)
 - Variations in costs over a period of time
 - Inventory holding costs

II. Supplemental case information – growth strategy

Factors to consider in Growth Strategy Analysis

Mapping growth strategy options:

	Existing Market	New Market
Existing Products	Increased Penetration	New Market Entry
New Products	Product Development	Diversification

- **Increased penetration**

- Capacity to sustain increased volume (see Capacity Expansion below)
- Increased marketing expense

- **Methods of market entry or product entry**

- Organic / greenfield
- Acquisition
- Partnership / joint venture

- **Factors to consider for new market / new product**

- Industry structure and analysis (see above)
- Localization of product / service offerings, regulations, tariffs
- Source of volume (steal share, create new market)
- Customer related barriers to entry
 - Switching costs
 - Access to distribution channels
 - Brand awareness
- Non-customer related barriers to entry
 - Capital requirements
 - Regulation
 - Economies of scale
- Quantify investment cost and risk
- Prior experience with market / product entry – have they tried this before? If so, what was the outcome?

- **Additional factors for new product entry**

- Cannibalization
- Trading up, trading down

II. Supplemental case information – Marketing

Framework for Strategic Marketing

1 Strategic analysis

Three 'C' Analysis

- Customer
- Company
- Competition

2 Strategic objectives

- Product Differentiation, OR
- Cost Leadership, OR
- Focus Strategy

3 Marketing objectives

- Target market / positioning
- Demand Strategy

Market Segmentation → Target Market Selection → Positioning

4 Marketing tactics

4 P analysis i.e. Marketing mix

- Product
- Price
- Place (channels)
- Promotion

5 Measuring outcomes

Customer acquisition
(Get)



Customer retention
(Keep)



Share of wallet
(Sell more)

II. Supplemental case information – acquisition

Factors to consider in a Private Equity / Acquisition Case

- **Determine the rationale**
 - Revenue increase and / or cost reduction?
- **Acquire resources**
 - Capacity
 - Technology
 - Distribution
 - Human capital
 - Brand
 - Product line
 - Network effects
 - Complementarities
- **Cost synergies**
 - Economies of scale
 - Economies of scope
 - Learning curve
- **NPV analysis**
 - Is the price of acquisition < revenue increase and / or decrease in cost?
 - Net present value → initial investment, ongoing costs, projected cash flows, cost of capital, sensitivity analysis / risks
 - $$NPV = -\text{Investment} + \frac{CF\ 1}{(1+i)^1} + \frac{CF\ 2}{(1+i)^2} + \frac{CF\ 3}{(1+i)^3} + \dots$$
- **Organization considerations**
 - Synergies
 - Required changes to organizational structure
 - Corporate cultural fit
- **Vertical integration**
 - Coordination costs
 - Costs of accessing the market
- **Competitive reaction**
 - What will other firms do?
 - Pace of innovation

II. Supplemental case information – investment, capacity expansion, pricing strategy

New Business Investment

- Industry analysis
- Rationale
- Financial assessment and breakeven point
 - NPV: initial investment, ongoing costs, projected cash flows, cost of capital, sensitivity analysis / risks
- Property, plant and equipment
 - Useful life of equipment
 - Depreciation
 - Utilization
 - Salvage value
- Opportunity costs / economic rent / option value

Pricing Strategy

- Elasticity of demand
 - Substitutes
 - Short run outcomes
 - Long run effects
- Economic value analysis
 - Reference value
 - Differentiation value
- Cost-plus method
- Non-linear pricing
 - Two-part tariffs
 - Bundling: complements, non-complements

Capacity Expansion

- Impact on prices – increasing supply may affect demand
- Competitive reaction
- Options
 - Expand existing facility
 - Build new facility
 - Proximity to suppliers / distributors and transportation requirements
 - Time to build
 - Seek alternatives – lease, outsource, acquire, etc.

III. Case math – general guidelines

Case math tests candidates' ability to perform calculations quickly and accurately, as well as general "number sense" or understanding of how to extract meaningful insights from a large quantity of information.

Talk through your analysis

Before calculating anything, provide a structured approach to your interviewer for how you will solve the problem ahead of you.

There are many ways to get to the right answer

What sets apart a great analysis is: (i) elegance of the solution, (ii) articulation of the math / logic, and (iii) synthesis of the key takeaway, or "so what?"

Ask to round when possible

Rounding can help you get to an 80/20 solution. Be sure to ask your interviewer to see if it's okay to round first.

Be as accurate as possible

Performing long division to get the right answer is much better than trying to do the math mentally and getting it wrong!

Handle mistakes with poise

Many people mess up a calculation at some point and still receive job offers. Keep your cool, correct the errors, and move forward.

Use the paper you feel comfortable with

Most people use white 8.5" x 11" paper, but try graphing or engineering paper if you think it would help you stay organized.

III. Case math – tips and tricks

Rounding

Example 1:
 $223 \text{ million} * 21$
 $\approx 220\text{M} * 20$
 $= 4,400\text{M}$ or 4.4 billion

Example 2:
 $1,030,850 / 33 \text{ million}$
 $\approx 1/33$
 $\approx 3\%$

Distributive Property

Example 1:
 $23 * 51$
 $= (20 * 50) + (3 * 50) + 23$
 $= 1,000 + 150 + 23$

Example 2:
 $3,756 / 33$
 $= (3,300 / 33) + (456 / 33)$
 $= 100 + (330 / 33) + (126 / 33)$
 $\approx 100 + 10 + 4$
 $= 114$ (or 120)

Scientific Notation

Multiplication Example:
 $2,000 * 300$
 $= (2 * 10^3) * (3 * 10^2)$
 $= 6 * 10^5$
 $= 600,000$

Division Example:
 $100,000,000 / 5,000$
 $= (10 * 10^7) / (5 * 10^3)$
 $= 2 * 10^4$
 $= 20,000$

Rule of 72

The Rule of 72 allows you to calculate the growth rate an investment will require to **double** in a specific number of years. Conversely, it can be used to calculate the number of years it will take an investment to double in value at a given growth rate.

Example 1:
 For an investment to double in 5 years, it must grow at:
 $(72 / 5) = 14.4\%$

Example 2:
 An investment growing at 12% will double in:
 $(72 / 12) = 6$ years

III. Case math – business formulae (1/2)

- *Contribution Margin* = *Price* – *Variable Costs*
- *Quantity Breakeven* = $\frac{\text{Fixed Costs}}{\text{Contribution Margin}}$
- *Time to Breakeven*

$$BE = \frac{\text{Quantity Breakeven}}{\text{Sales volume per period}}$$
- *Elasticity* = $\frac{\% \Delta \text{Quantity}}{\% \Delta \text{Price}}$
- *Revenue Growth* = $\% \Delta \text{Price} + \% \Delta \text{Volume} + \% \Delta \text{Price} * \% \Delta \text{Volume}$
- *CAPM* = *Risk free rate* + $\beta(\text{Market Return} - \text{Risk free rate})$
- *Present Value* = $\frac{\$ \text{Amount}}{(1 + \text{Interest Rate})^{\text{time period}}}$
- *Perpetuity Calculation* = $\frac{\$ \text{Amount}}{\text{Interest rate}}$
- *NPV* = $-\text{Investment} + \frac{CF_1}{(1+i)^1} + \frac{CF_2}{(1+i)^2} + \dots + \frac{CF_n}{(1+i)^n}$
- **Contribution Margin** reveals how much of the company's revenues contribute to the company's fixed costs and income
- **Breakeven quantity** indicates how many units of product need to be sold to cover the fixed costs
- **Time to breakeven** indicates how many periods will be necessary to reach the breakeven quantity
- **Elasticity** indicates how many more items (volume) we can sell with a decrease of 1% in price
- **Revenue growth** considers the increase in revenues due to increase in price and increase in volume
- **CAPM** stands for Capital Asset Pricing Model and is used for pricing of financial markets securities
- **Present value** is the value of future cash flows (positive or negative) brought to present value
- **Perpetuity** calculation is the value of all future cash flows until perpetuity brought to present value; is usually used to calculate the value of firm or investment
- **NPV** stands for net present value and is the value of all future cash flows brought to present value by the interest rate minus the initial investment

III. Case math – business formulae (2/2)

- $$\text{CAGR} = \frac{\text{Ending Value}}{\text{Beginning Value}}^{\left(\frac{1}{\# \text{ of yrs}}\right)} - 1$$

- $$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

- Return on Equity:

$$(\text{ROE}) = \frac{\text{Net Income}}{\text{Shareholders' Equity}}$$

- $$\text{Return on Investment (ROI)} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

- $$\text{Gross Margin} = \text{Revenue} - \text{Cost of Goods Sold}$$

- $$\text{Gross Margin \%} = \frac{\text{Gross Margin}}{\text{Revenue}}$$

- $$\text{Operating Margin \%} = \frac{\text{Operating Income}}{\text{Revenue}}$$

- **CAGR** stands for Compound Annual Growth rate and indicates the average annual growth per years in a given period of time
- **Return on assets (ROA)** measures how profitable the company is relative to its assets and gives an idea of how effective management is on using company's assets to generate earnings
- **Return on equity (ROE)** measures how much money a company has provided relative to the money shareholders have invested
- **Return on investment (ROI)** measures the efficiency of an investment. Sometimes used to compare several possible investments
- **Gross margin** is how much money the company makes before sales, marketing and general expenses; this amount divided by the overall revenue of a company is the gross margin %
- **Operating margin** indicates how much money the company makes before taxes

III. Case math – facts and fractions

Factoids

You might be asked to estimate a market size. It's useful to know approximate data so your estimation is more accurate. Research these types of facts for your office location.

Population Data:

- U.S. Population: 320M
- NYC Population: 8M
- LA Population: 4M
- Chicago Population: 3M
- U.S. Households: 100M
- Average lifespan: 80 years
- Evenly distributed per age: 4M
-
- Population of China: 1.3B
- Population of India: 1.5B
- Global Population: 8.0B

Economic Data:

- U.S. GDP Growth Rate: 2-3%
- World Nominal GDP: \$100 trillion
- U.S. Nominal GDP: \$25 trillion
- E.U. Nominal GDP: \$20 trillion

Equivalent fractions

It can help to have the following fractions memorized:

$$1/2 = 50\%$$

$$1/3 = 33\%$$

$$1/4 = 25\%$$

$$1/5 = 20\%$$

$$1/6 = 16.7\%$$

$$1/7 = 14\%$$

$$1/8 = 12.5\%$$

$$1/9 = 11\%$$

$$1/10 = 10\%$$

Other math resources

- Flash cards or times tests online
- GMAT prep books!
- CQ Interactive (membership required):
http://www.cqinteractive.com/cqi_main.cfm
- iPhone or other mobile apps: (i.e. Fractionator, Fraction Factory, Brain Tuner Lite (free), and ArithmeTick)

Chart clearing - general tips

1. Begin your chart clearing by explaining what you are seeing:
 - a) The data
 - b) Axes
 - c) Units
 - d) Years
2. Articulate high-level insights and trends you can identify based on the chart
3. (If asked), use data from the chart for additional analysis
4. Link chart insights to other information provided, and offer second-order insights
5. Finish with a clear “so what” from the chart – what does this information mean for the case and the client?

You'll see the following types of charts during case interviews:

1. Marimekko or “Mekko”
2. Waterfall
3. Stacked Bars
4. Bubble Chart
5. Clustered Bars

Make sure that you can confidently clear each chart type.

Rocketblocks and other schools' casebooks are useful for chart clearing prep.

IV. Charts - “Marimekko” or “Mekko” (1/2)

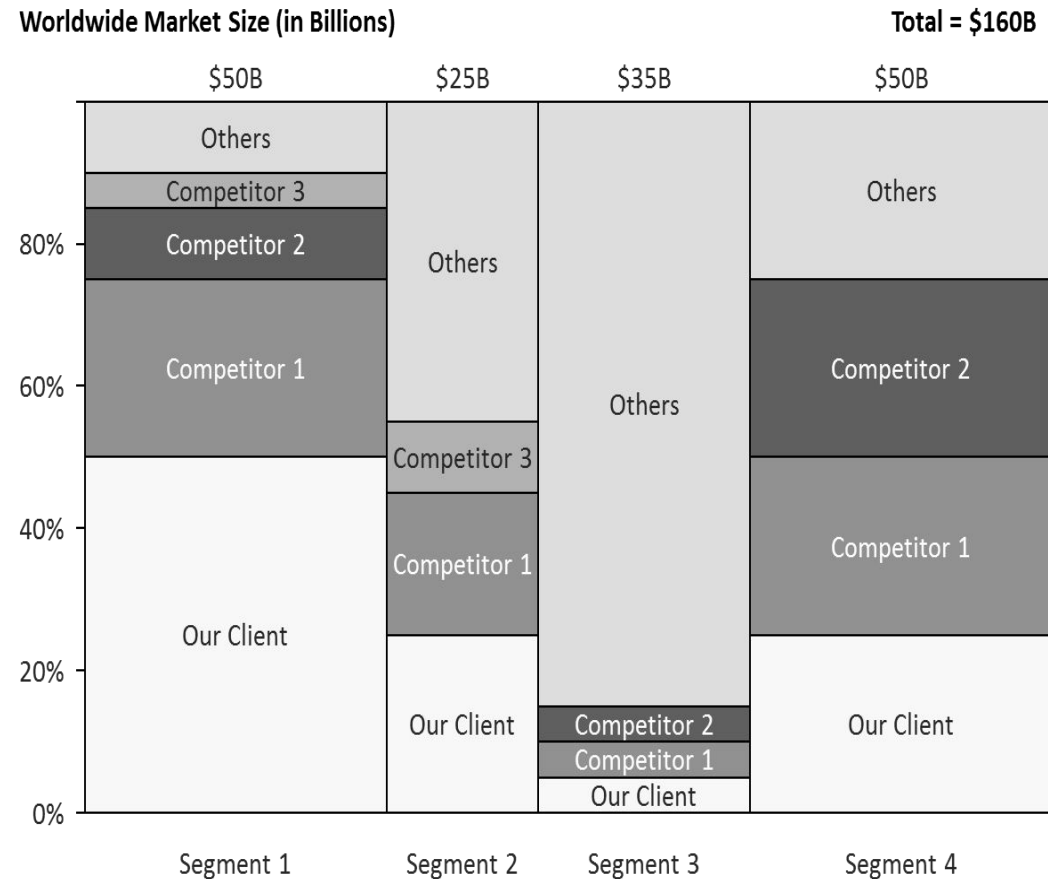
Clear stacked bar charts by looking at the following:

External to chart:

- Check chart title, headers, and footers
- Read **axes** and **units** carefully

Internal to chart:

- Pay attention to segment sizes / overall total
- Box sizes within each segment typically show absolute market share within that segment
- Totals for each company can be computed by multiplying height (percentage in this example) * width (segment size in this example)
- Check across segments for trends or missing companies
- Check for an “Other” box which combines the remaining companies’ share into a single box. A large “Other” box typically indicates a fragmented market.



The “Mekko” is a common chart form, especially at Bain and BCG.

IV. Charts - “Marimekko” or “Mekko” (2/2)

Key takeaways from this chart

Market segmentation:

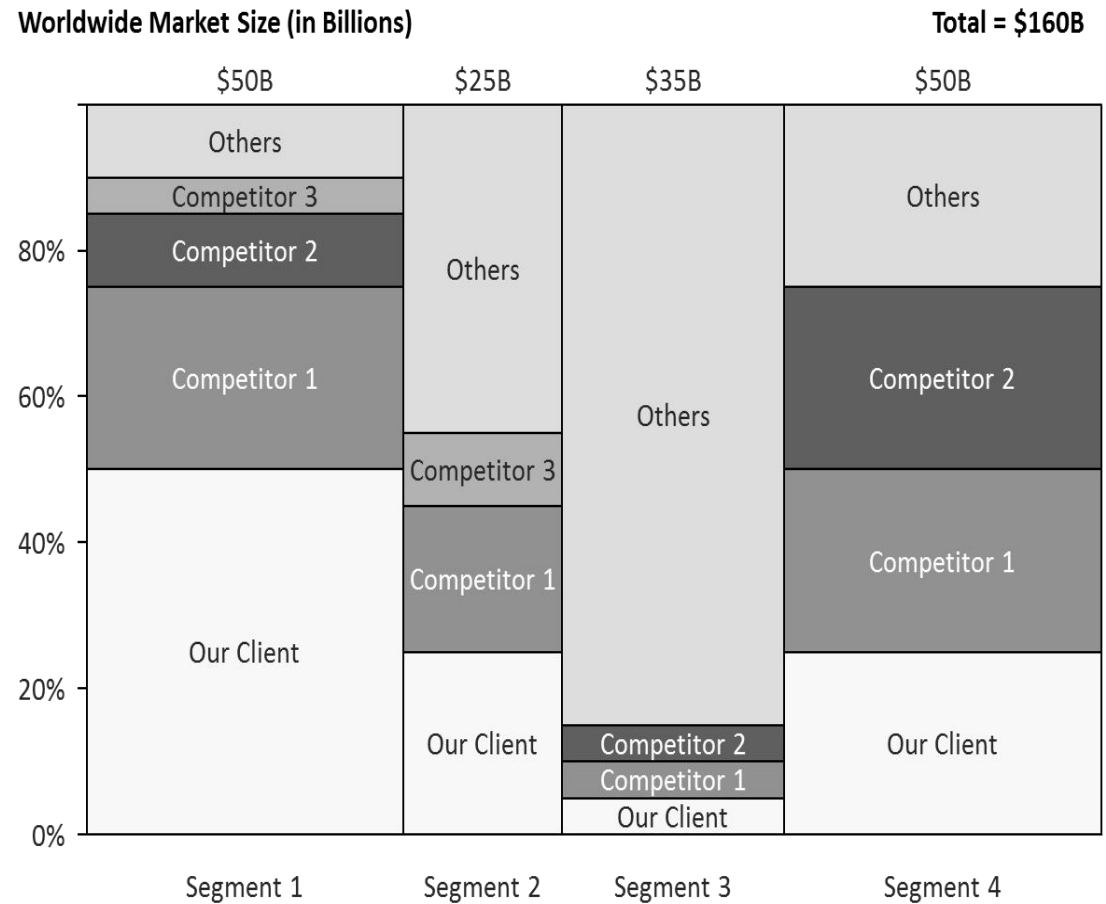
Notice that the \$160B market is divided into four segments. The width of the segment on the top of each bar indicates the size of that segment. For instance, segment 1 is \$50B and segment 3 is \$35B.

Competitive landscape:

We can observe the level of competition and relative positioning of each player. For instance, segment 1 is dominated by our client and is consolidated, while segment 3 is very fragmented. Additionally, Competitor 3 doesn't play in segment 3 or 4, and Competitor 2 is not in Segment 2.

Share of segment:

Within each segment, we can also find the size of segment captured by the various players by looking at their height within the bar. For instance, segment 1 generates \$50B of revenues and our client has 50% share i.e. 50% of \$50B = \$25B. Similarly, segment 2 generates \$25B of revenues and competitor 3 appears to have 10% share i.e. 10% of 25 = \$2.5B.



IV. Charts – “Waterfall”

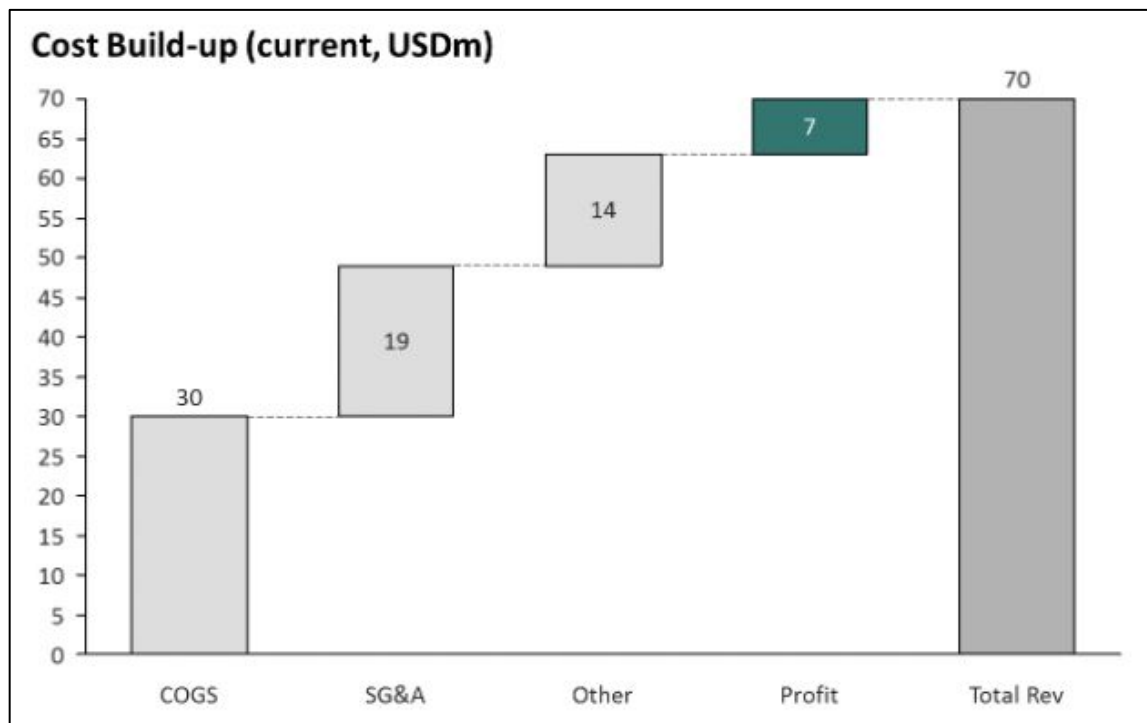
Clear waterfall charts by looking at the following:

External to chart:

- Check chart title, headers, and footers
- Read axes and units carefully

Internal to chart:

- Orient yourself to what is being built-up (or built-down)
- Pay attention to each bar's size / value relative to total size / value
- If axis is a total (not %), can calculate individual components in % of total
- If axis is % (with known total), can calculate individual components in #
- Pay attention to each label and how it ties back to the case



IV. Charts – “Stacked Bars”

Clear stacked bar charts by looking at the following:

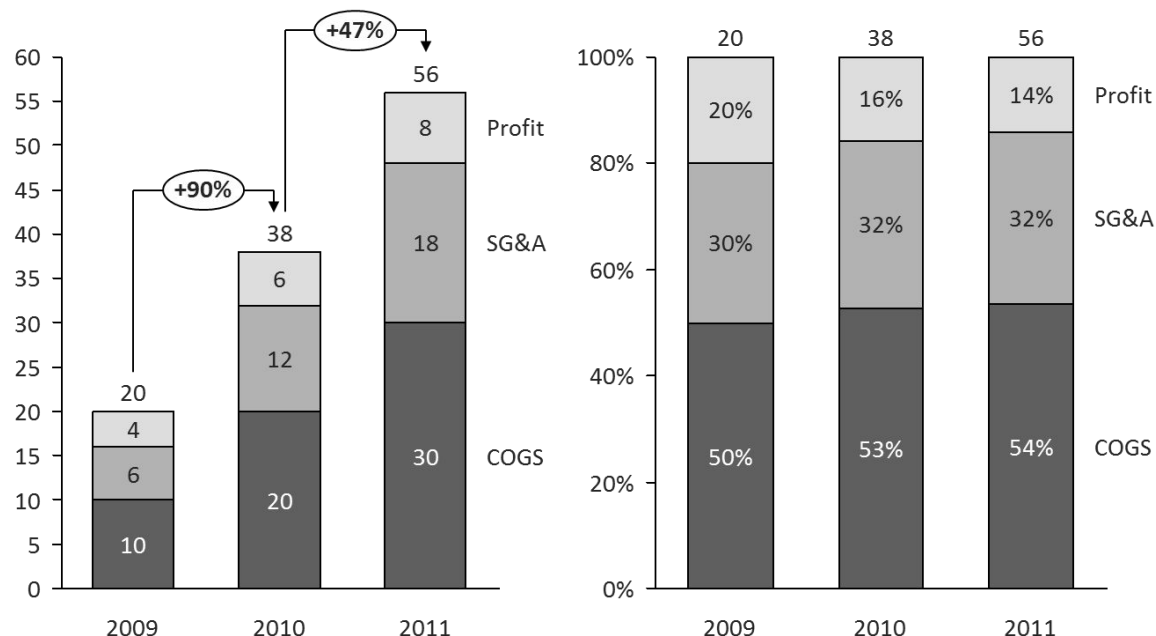
External to chart:

- Check chart title, headers, and footers
- Read axes and units carefully

Internal to chart:

- Absolute axes can show volume changes over time (See Exhibit 1 – left hand side)
- If only absolute, can check for mix shift using segment / total
- % axes can show mix shift over time (See Exhibit 2 – right hand side)
- If only %, can check for absolute growth using totals & %'s
- Pay attention to each label and segment and how it ties back to the case

Exhibits 1 & 2: Two ways to present the same data



IV. Charts – “Bubble Chart”

Clear stacked bar charts by looking at the following:

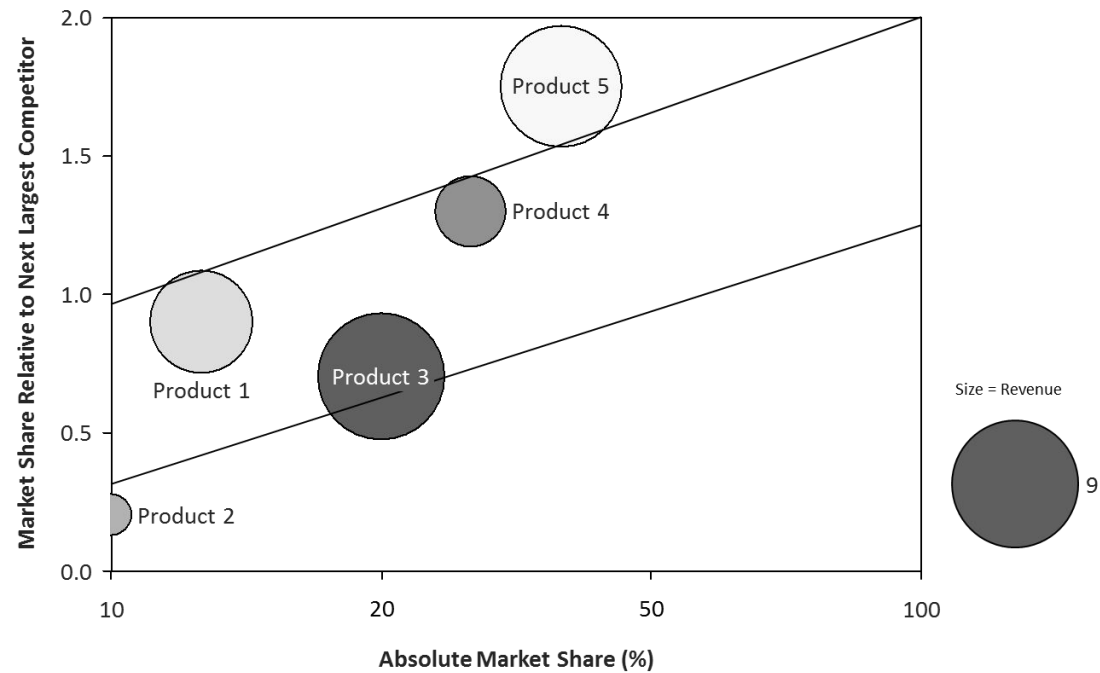
External to chart:

- Check chart title, headers, and footers
- Read axes and units carefully
- Check legend – typically bubble size is meaningful

Internal to chart:

- Understand the meaning of the axis, positioning, size of each bubble
- Pay attention to each label and how it ties back to the case
- Make sure to understand trend lines and “normative bands” as they vary from firm to firm
- Look for outliers in any of the three dimensions (x, y, bubble size)

Company A's Absolute vs. Relative Market Share



Bubble charts can be confusing – ask questions if something is unclear.

IV. Charts – “Clustered Bars”

Clear stacked bar charts by looking at the following:

External to chart:

- Check chart title, headers, and footers
- Read axes and units carefully

Internal to chart:

- Pay attention to each bar / trend and how it ties back to case
- Compare bars to each other to understand trend and tie back to case
- Check totals of each bar and understand implications on case
- Identify inflection points where trends change significantly
- Pay attention to CAGR calculation start and end points, and identify trends before and after those points which do not follow

Company X's Marketing Expense vs. Sales



A clustered chart groups information together to allow for easy comparison.

V. Industry – Checklist of industries to explore

- | | | |
|---|---|--|
| <input type="checkbox"/> Agribusiness | <input type="checkbox"/> Defense | <input type="checkbox"/> Oil & Gas |
| <input type="checkbox"/> Advertising | <input type="checkbox"/> Dentists | <input type="checkbox"/> Pharmaceuticals |
| <input type="checkbox"/> Air transport / Airlines | <input type="checkbox"/> Doctors | <input type="checkbox"/> Poultry Production |
| <input type="checkbox"/> Alcoholic Beverages | <input type="checkbox"/> Drugstores | <input type="checkbox"/> Printing and Publishing |
| <input type="checkbox"/> Alternative Energy | <input type="checkbox"/> Electric Utilities | <input type="checkbox"/> Private Equity |
| <input type="checkbox"/> Automotive | <input type="checkbox"/> Electronics Manufacturer | <input type="checkbox"/> Professional Sports |
| <input type="checkbox"/> Bars and Restaurants | <input type="checkbox"/> Food Stores | <input type="checkbox"/> Railroads |
| <input type="checkbox"/> Books & Magazines Retail | <input type="checkbox"/> For-profit Education | <input type="checkbox"/> Real Estate |
| <input type="checkbox"/> Car Dealers | <input type="checkbox"/> Funeral Services | <input type="checkbox"/> Recycling |
| <input type="checkbox"/> Casinos | <input type="checkbox"/> Government (local / regional / national) | <input type="checkbox"/> Student Loan Companies |
| <input type="checkbox"/> Cattle Ranchers | <input type="checkbox"/> Gym Studios | <input type="checkbox"/> Steel Production |
| <input type="checkbox"/> Clergy & Religious Organizations | <input type="checkbox"/> Highway Concessions | <input type="checkbox"/> Sugar Cane Production |
| <input type="checkbox"/> Clothing Manufacture | <input type="checkbox"/> Hospitals | <input type="checkbox"/> Telecom Services (mobile and fixed) |
| <input type="checkbox"/> Coal Mining | <input type="checkbox"/> Hotels | <input type="checkbox"/> Timber, Logging & Paper Mill |
| <input type="checkbox"/> Colleges, Universities, Schools | <input type="checkbox"/> House Appliances Retail | <input type="checkbox"/> Tobacco |
| <input type="checkbox"/> Coffee Shops | <input type="checkbox"/> Infrastructure | <input type="checkbox"/> Transportation (urban) |
| <input type="checkbox"/> Computer Software | <input type="checkbox"/> Internet and Cable TV | <input type="checkbox"/> Trash Collection |
| <input type="checkbox"/> Commercial Bank | <input type="checkbox"/> Insurance Company | <input type="checkbox"/> Travel Agency |
| <input type="checkbox"/> Contractors | <input type="checkbox"/> Libraries | <input type="checkbox"/> Utilities |
| <input type="checkbox"/> Credit Card Company | <input type="checkbox"/> Media / TV | <input type="checkbox"/> Venture Capital |
| <input type="checkbox"/> Cruise Ships | <input type="checkbox"/> Music Production | |
| <input type="checkbox"/> Dairy | | |

For each industry, understand sources of revenue, cost structures, and who the customers are.

Overviews of some key industries can be found in the MCG Industry Review

VI. Zoom Best Practices (Overall)

Technology

- **Join the meeting ~10 minutes before the start time**
- Use earbuds / headphones for audio, if possible
- **Use your phone for audio** (use Zoom dial-in or call-me features or similar). That way if you have computer / internet issues the audio won't be interrupted
- Hardwire your computer to the modem, if possible
- Make sure that your Zoom profile shows your first and last name (and pronoun, if desired)

Attire, Surroundings

- Follow recommended dress attire. Interviews are business professional; it helps to practice in business casual occasionally. Wear shoes, even on Zoom – it'll make it feel like the real thing (*because soon it will be*)
- **Set neutral or virtual background**, and check video for good lighting before starting the interview

Communication

- Avoid reading from a screen or notes from a paper – make eye contact with either the camera (preferred) or the screen
- **Be clear and concise in your messaging.** When giving structured answers, 'lay out the framework' before filling in the blanks (e.g., "I have 3 things I'd like to explore... the first is [xyz]")
- It's ok to ask additional clarifying questions if you didn't hear something clearly over Zoom. This is normal and expected
- Walk your interviewer through any math before you start – be sure to tell them why you're doing your calculations
- Maintain physical presence as you would for an in-person interview, bring your best energy, and smile! 😊

Troubleshooting

- Tech challenges happen often. Don't panic, note where the conversation was interrupted, and reach out to your contact (might be the interviewer, might be the recruiter) to re-establish connection
- Interruptions will not materially impact your interview if you don't let it. Stay calm - remain a professional. Consultants experience this with clients - it happens. They will appreciate your composure should it happen during your meeting
- If you have computer or internet issues consider switching to your phone to join the interrupted meeting

Practice Case Compendium

Tips for Giving an Effective Case

There are many ways to give a case. Case structure, tone, format, and content will vary by interviewer, by firm, by office, by geography. We do recommend the following to help both yourselves and your classmates become more effective casers and candidates:

- **Ask your partner if there is something they want to work on in advance (or if they've received common feedback)**
 - Practice casing with intent. Have an area you want to specifically focus on improving, then target that area during the practice case
- **Take the casing process seriously**
 - Now is the time to congratulate your friends and case partners for doing something well, and at the same time not let them off the hook for their mistakes – doing so will only jeopardize their chances of doing well when it really matters
 - Do not joke around *during* the case – treat these as formal encounters to get in practice for the real deal
- **Read the case fully through beforehand, and think through how you might solve it and what mistakes you might make or challenges you may encounter**
 - If there is a quant piece, solve it in advance so you're not solving along with the interviewee
 - If the case covers a subject area (industry or function) you don't know well, do a quick review from the industry and functional frameworks found in this book or provided in the MCG Google Drive
- **Do not unnecessarily 'help' your partner along**
 - If there is uncomfortable silence, or they're going down the wrong path you can 'nudge' them in the right direction, but only after you've given them a fair shot to figure it out themselves
 - Let them be wrong (for a time) before pushing them in the right direction. Learning how to 'get out of a hole' is a critical part of the case learning curve
- **Take detailed notes during the case, and provide unvarnished and honest feedback**
 - Leverage the case feedback template in the MCG Google Drive to structure your feedback by case component

Index of Practice Cases (1 of 3)

PAGE	CASE #	CASE NAME	FIRM	CASE TYPE	INDUSTRY	Overall	Quant	Creativity
69	1	Army Hotel	McKinsey & Company	Market Entry	Hospitality	2	2	2
75	2	Breast Cancer Surgery	L.E.K. Consulting	Profitability	Healthcare	1	1	1
80	3	Burger Palace	Undisclosed	Market Entry	Restaurants, Food & Bev	2	2	1
87	4	Chicken Pox Vaccine	Undisclosed	Market Sizing	Pharmaceutical/Healthcare	3	3	2
94	5	Cleaning Products	McKinsey & Company	Growth Strategy	Consumer Products	1	2	1
100	6	Coffee and Tea Apparel	Deloitte	Mergers & Acquisitions	Retail & Apparel	2	3	1
108	7	Commercial Vehicle OEM in China	Strategy&	Growth Strategy	Transportation & Automotive	2	2	2
114	8	Consumer Products Strategy	BCG	Market Entry	Consumer Products	2	2	3
121	9	Contact Lenses	McKinsey & Company	Profitability	Consumer Products	2	2	2
131	10	Deepwater Inc.	Undisclosed	Investment Decision	Energy	3	1	3
137	11	Electric Utility	McKinsey & Company	Profitability	Energy	2	1	2
143	12	Elena's Electronics	Undisclosed	Profitability	Consumer Electronics	2	2	1
150	13	Finance Co	Bain & Company	Growth Strategy	Financial Services	3	3	3
157	14	French Beauty Co	Accenture	Operating Model	Retail & Apparel	2	1	2
163	15	German Telecom	BCG	Profitability	Telecommunications	2	2	1
169	16	Green Co	Deloitte	Investment Decision	Retail & Leisure	3	3	1
176	17	GreenShield Health Insurance	Strategy&	Market Entry	Financial Services & Insurance	2	2	1
183	18	Hawaiian Smoothies	BCG	Market Entry	Restaurants, Food & Bev	2	2	2

1 = Easiest, 3 = Hardest

Quant = Level of math involved, Creativity = Difficulty of developing frameworks and brainstorming

Index of Practice Cases (2 of 3)

PAGE	CASE #	CASE NAME	FIRM	CASE TYPE	INDUSTRY	Overall	Quant	Creativity
189	19	Heavy Attrition	Z.S. Associates	Organizational Change	Healthcare	1	1	2
194	20	International Airlines	Bain & Company	Profitability	Transportation	1	2	1
201	21	Katrina	BCG	Non-traditional Problem	Non-profit/Education	2	1	2
206	22	Linda's Great Burgers	McKinsey & Company	Mergers & Acquisitions	Restaurants, Food & Bev	2	1	2
212	23	Lola Lo's Zoo	Undisclosed	Investment Decision	Entertainment	3	3	3
219	24	Lost Patent	A.T. Kearney	Revenue	Pharmaceutical/Healthcare	2	1	3
224	25	Midwest Machinery Co.	Bain & Company	Sourcing/Outsourcing	Industrial Goods	3	3	2
231	26	New Vaccine	L.E.K. Consulting	Market Entry	Pharmaceutical/Healthcare	2	2	1
238	27	Payments Company	Deloitte	Profitability	Financial Services	2	2	1
245	28	Pharmaceutical Rare Disease	BCG	Growth Strategy	Pharmaceutical/Healthcare	3	3	2
251	29	Project Gargoyle	Bain & Company	Investment Decision	Hair Care Products	3	2	3
261	30	PyeongChang Winter Olympics	McKinsey & Company	Investment Decision	Tech, Media, & Telecom	3	3	3
266	31	Quahog Public Schools	McKinsey & Company	Non-traditional Problem	Non-profit/Education	3	2	3
272	32	Retirement Apartment Complexes	Undisclosed	Market Entry	Real Estate	2	3	2
279	33	Skylight Goods	BCG	Operations	Industrial Goods	3	3	2
290	34	Smart Cards	McKinsey & Company	Growth Strategy	Tech, Media, & Telecom	2	1	3
297	35	Student Health Insurance	Deloitte	Growth Strategy	Insurance	2	2	3
309	36	Super Jr. Baby Formula	Bain & Company	Investment Decision	Consumer Products	3	3	2

1 = Easiest, 3 = Hardest

Quant = Level of math involved, Creativity = Difficulty of developing frameworks and brainstorming

Index of Practice Cases (3 of 3)

PAGE	CASE #	CASE NAME	FIRM	CASE TYPE	INDUSTRY	Overall	Quant	Creativity
320	37	Apache Helicopter	Undisclosed	Investment Decision	Industrial Goods	3	3	3
328	38	White Boards	Bain & Company	Sourcing/Outsourcing	Durable Goods	2	1	2
334	39	Telco Talks	Accenture	Mergers & Acquisitions	Telecommunications	2	2	1
340	40	Yarmouth Yachts	Cornerstone Research	Legal Analysis	Luxury Retail	1	1	1
348	41	Sueno Mattress	KPMG Strategy	Profitability	Consumer Products	1	1	2
354	42	Cruise Line Acquisition	BCG	Profitability	Travel & Tourism	3	2	3
362	43	Shoe Co.	Bain	Market Entry	Consumer Products	2	2	1
370	44	Craft Co.	EYP	Profitability	Consumer Products	1	2	1
376	45	Telecom Co.	Bain	Market Entry	Telecom	3	3	2

1 = Easiest, 3 = Hardest

Quant = Level of math involved, Creativity = Difficulty of developing frameworks and brainstorming

Overall	Quant	Creativity
2	2	2

Case #1: Army Hotel

Case Type:
Market Entry

McKinsey & Co – Interviewer Driven

Industry:
Hospitality

Concepts Tested:

- Pricing
- Breakeven analysis

Case #1: Army Hotel (1/5)

McKINSEY & CO – Round 1 – Interviewer Driven

Fit Questions

1. Why consulting?
2. Tell me about a time when you had to face a significant challenge.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a PE firm that has the opportunity to invest in building a 400-room hotel on an army base. The idea was given to the PE firm by the army.

The government has decided to give our client the land for free – our client can build the hotel and keep all of the profits. Our client has hired you to find out what they need to know to determine if they should build it or not.

Interviewer Guidance

This case helps candidates understand that investors' interests are usually two-fold: profitability of the investment and their own financial hurdles. In order to be successful in this case, candidates must also gain an understanding of the market and competition. McKinsey cases are interviewer driven, so you will ask all the questions listed. However, do assess the candidate on their ability to drive the case forward.

Quant Level – MEDIUM

Case Type	Industry	Client Type
Market Entry	Hospitality	Private Equity

Case Development

1. Framework
2. Pricing analysis
3. Revenue analysis
4. Cost analysis
5. Recommendations

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #1: Army Hotel (2/5)

Framework

Working hypothesis: The PE firm should build the hotel. To validate that, I'd like to look at

- Hotel Market
 - Competition
 - Number of hotels
 - Location
 - Customers
 - Soldiers
 - Proximity to base
- Profitability
 - Revenues
 - Demand/Occupancy
 - # of rooms
 - Pricing
 - WTP
 - Non-occupancy revenues
 - Costs
 - Capital expenses
 - Building/investment
 - Breakeven timeline
 - Operational expenses
 - Labor
 - Maintenance
- Client interests (PE firm)
 - Portfolio mix
 - Financial and operational investment goals
 - Exit opportunities
 - Opportunity cost

Interviewer Guidance

The purpose of the hotel is to provide housing for:

- Soldiers attending training at the base
- Soldiers with temporary transfers to this base

If asked, provide the candidate with the following information:

Competition

- There are three existing hotels near the base and each are approximately 20 miles away from it. The nightly rates for each hotel are:
 - Hilton (\$110/night)
 - Hampton Inn (\$75/night)
 - Days Inn (\$40/night)

Occupancy

- There are two training classes held at the base:
 - Basic Officer Training: 200 soldiers per class; class lasts 10 weeks and is held 5 times per year.
 - Advanced Officer Training: 50 soldiers per class; class lasts 4 weeks and is held 10 times per year.
- Temporary housing: Soldiers are transferred every 3 years and are given 15 days to find a permanent place to stay. There are 9,000 active duty soldiers subject to this rotation.

Case #1: Army Hotel (3/5)

Question: Pricing Strategy

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

Clarify that this per day reimbursement is also intended to cover the soldiers' breakfast and dinner.

Interviewer Guidance: Pricing Strategy

- Probe the student to determine how much per night the hotel will charge and what services should be included.
- The candidate should consider how much breakfast and dinner will cost the soldier and ensure that those costs in addition to the nightly rate will not exceed the stipend.
- The candidate should recognize that the Days Inn (\$40/night) is the only competitive option the soldier is likely to consider, and should discuss how the distance away (20 miles) might also impact this decision, as well as what amenities are included.

Question: Revenue

Assume for purposes of the rest of the case that the client decides the hotel will charge a fee of \$60/night.

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

Interviewer Guidance: Revenue

Candidate should use occupancy information in previous slide to compute revenue:

Type of training	People #	Time Period	Times/ year	Total rooms/ year
Basic	200	10 weeks	5	70,000
Advanced	50	4 weeks	10	14,000
Temp.	3,000	15 nights		45,000

Total rooms/yr. = 129,000 (round to 130,000)
Total revenue = \$7.8 million @\$60 per night

Case #1: Army Hotel (4/5)

Question: Costs

Having addressed the revenue side, let's talk about costs. What are the costs associated with operating a hotel?

If the candidate has not yet touched upon initial investment costs, probe them to do so by asking:

What are the other costs associated with running a hotel?

Interviewer Guidance: Costs

Annual operating costs

- Candidate should list off relevant fixed and variable operating costs such as labor, supplies and utilities.
- Tell them to assume total Op-ex of \$4 million per year.

Upfront investment cost

- The candidate should talk about investment costs.
- Tell them that the Hampton Inn made an initial investment of \$50,000 per room. The same costs can be assumed for our client's hotel.
- Candidate should calculate a total initial investment of \$20 million to build a 400 room hotel.

Question: Capacity

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

After the candidate identifies the capacity issue, state that *"during their busiest part of the year, which lasts four months, the hotel runs a capacity shortage of 80 rooms per night."*

The candidate should then recalculate the revenue projection created earlier and to determine the operating profit.

Interviewer Guidance: Capacity

We are looking for the candidate to touch on capacity issues.

The candidate should revise revenue calculation:

- 80 rooms x 4 months x 30 days per month = 9600 rooms per year (round this to 10,000 rooms)
- So, the new number of rooms are 120,000 x \$60 per night = \$7.2M/ year in annual revenue
- Therefore operating profit is \$7.2 M (Revenue) - \$4M (Operating Cost) = \$3.2M per year (profit)

Case #1: Army Hotel (5/5)

Question: Breakeven

Assume the client wants to breakeven within 4-5 years, what is the breakeven point for the PE firm?

Once calculated, probe the candidate by asking, *“Is this a good rate of return? Why do you think this?”*

Once the candidate responds, ask, *“What can be done to decrease the breakeven period?”*

Interviewer Guidance: Breakeven

- Breakeven time = fixed costs (investment) / operating margin: \$20M / \$3.2M = 6-7 years.
- Probe the candidate to come up with some ideas and suggestions to decrease breakeven period:
 - Add a restaurant to the hotel
 - Host army conferences
 - Find ways to decrease costs or increase occupancy

Recommendation

The PE firm should not invest in the army hotel:

- Annual operating profits are \$3.2M
- This results in a breakeven period of 6-7 years, exceeding the firm’s goal of 4-5 years
- Current army *per diem* does not allow for increases in the price of the hotel/night

Risks and Next Steps

Risks

- May lose opportunity for decreasing BE timeline by augmenting non-occupancy revenue (ex. restaurants and amenities) and by reducing costs
- Trainings may change and occupancy estimations may be inaccurate
- Opportunity cost for PE firm

Next Steps

- Analyze the financial impact of non-occupancy revenue and explore areas of cost reduction
- Look for other army bases with lower costs and/or higher occupancy demands
- Look for other investments that have a breakeven time period of 4-5 years

Overall	Quant	Creativity
1	1	1

Case #2: Breast Cancer Surgery

Case Type:
Profitability

L.E.K. Consulting – Candidate Driven

Industry:
Life Science, MedTech

Concepts Tested:

- Pricing
- Revenue Maximizing
- Marketing Strategy

Case #2: Breast Cancer Surgery (1/4)

L.E.K. – Round 1 – Candidate Led

Quant Level - LIGHT

Case Type

Industry

Client Type

Profitability

Healthcare

Medical device
company

Fit Questions

1. Tell me about a time you navigated ambiguity in the workplace.
2. Tell me about a time you demonstrated initiative.

Interviewer Guidance

This is a candidate driven case. Provide the candidate with additional information only when asked. The candidate should understand that to assess the profitability of this device, they will have to size the market as well as measure the willingness to pay for the device.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large medical device corporation. They have developed a new medical device to assist surgeons in breast conservation surgeries (BCS). They've approached us to determine a revenue maximizing pricing strategy for the device.

A breast conservation surgery is the partial removal of breast tissue found to be cancerous. This is in contrast to a mastectomy, which removes the entire breast. While hopefully this device will be adopted worldwide, at the moment, the client would like us to determine the pricing strategy for the product in the United States only.

Case Development

1. Framework
2. Analysis of Market potential
3. Analysis of Revenue potential
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #2: Breast Cancer Surgery (2/4)

Interviewer Guidance

The candidate should develop a framework that considers the following drivers:

- Med Device Market Potential
 - Patient
 - Market size: Number of breast conservation surgeries conducted per year (demand)
 - Growth trend: Frequency rate of breast cancer in population
- Revenue Potential
 - Provider/Clinician Adoption rate: willingness of clinicians to adopt the device at different price points
 - Med Device Co. relationship with clinicians: supplier contracts, trust
 - Insurance companies willingness to cover device cost as part of surgery
- BCS Device
 - Degree of Innovation (availability of substitutes)
 - Main features
 - Device applicability / usability across variety of breast conservation surgeries
 - Success/complication rate
 - Useful life, quality
 - Compliance to regulations (FDA)
 - Patent

Transition statement: I would like to begin by better understanding a clinician's adoption of the new device. It would be great if we had data on their willingness to adopt the device at various price points.

Framework

The candidate should walk the interviewer through the framework and ask further questions to understand the market and revenue potential. Provide this information when asked:

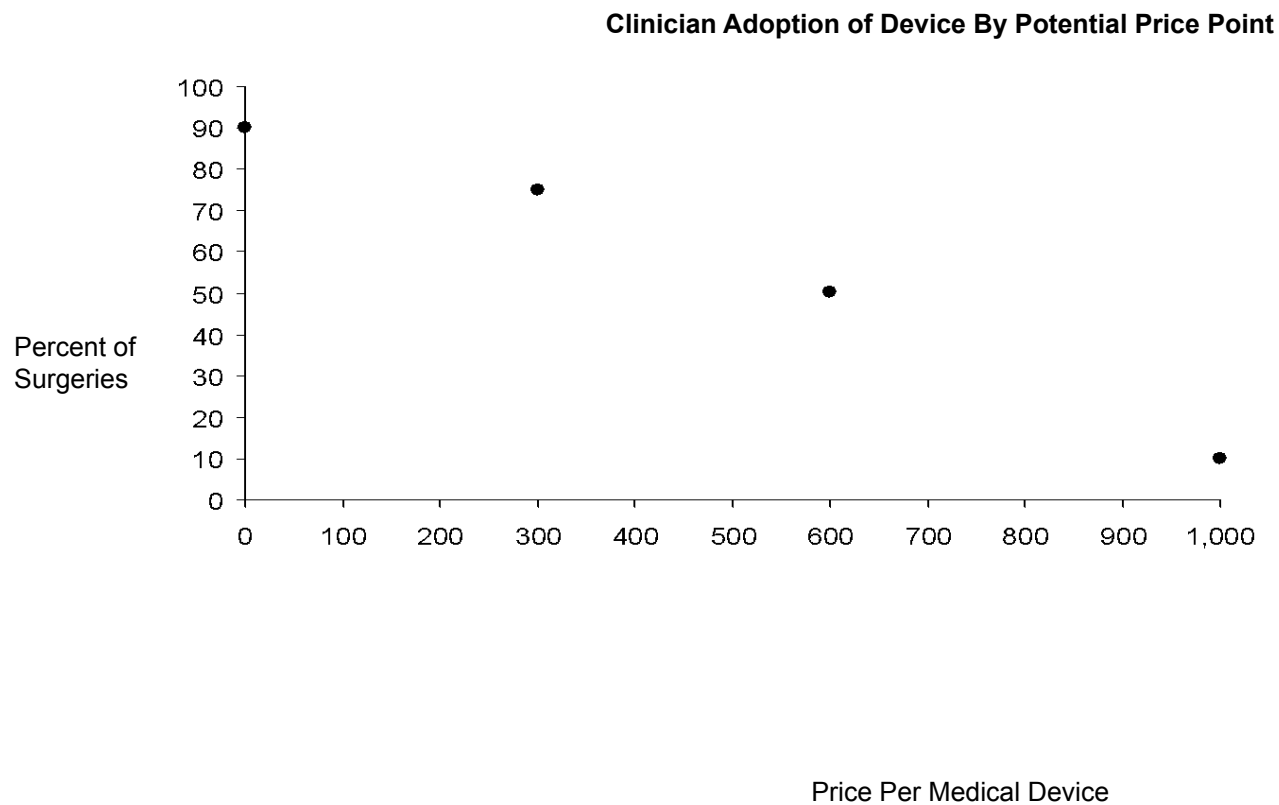
- There are around 100,000 breast conservation surgeries per year.
- The device is applicable across a wide range of procedures: it can be used in every breast conservation surgery.
- The device is disposable, so every surgery needs a new device.
- The device is FDA approved.
- There are no concerns related to quality from R&D.
- The success rate of the device is 100%.
- Currently there are no competitors, and the device would be the only product of this kind available on the market.

At this point, the candidate should know that the market potential for the device is 100,000 surgeries per year.

The candidate should then inquire if we know anything about a clinician's willingness to pay for the device. **Show Exhibit 1.**

Case #2: Breast Cancer Surgery (3/4)

Exhibit 1: Adoption



Case #2: Breast Cancer Surgery (4/4)

Recommendation

In order to understand the willingness to pay of clinicians, the candidate should calculate the revenue at each price point tested during the market research.

Market Potential	Price / Device	Willingness to Adopt (%)	Potential Revenue
100,000	\$0	90%	\$0
100,000	\$300	75%	\$22.5M
100,000	\$600	50%	\$30.0M
100,000	\$1000	10%	\$10.0M

The candidate should conclude that the device price that allows the client to achieve maximum potential revenues is \$600. The candidate should also conclude that greater adoption across surgeries does not necessarily lead to greater revenues, since the benefit of higher adoption may be outweighed by a lower price point.

A strong candidate will identify that the revenue maximizing price may not be optimal in terms of profits.

Calculations

- The client should market the device at a price of \$600 per unit
- This price allows the client to maximize the revenue potential given the current willingness to adopt

Brainstorm

After the candidate has identified the optimal pricing strategy of \$600/unit, ask *"How would you tailor a marketing strategy to ensure you reach 50% adoption?"*

Potential Answer

- Leverage existing sales relationship with general practitioners and specialty doctors
- Target large hospital networks
- Ads (TV, Social Media, Specialty Websites)

Risks and Next Steps

Risks

- Competitors might replicate the device and enter the market
- The revenue maximizing price might not be the profit maximizing one

Next steps

- Raise the barriers to entry by patenting the product and signing exclusivity agreements with clinicians
- Move forward with the analysis including the costs to find the profit maximizing price

Overall	Quant	Creativity
2	2	1

Case #3: Burger Palace

Case Type:
Market Entry

Undisclosed – Candidate Driven

Industry:
Restaurants, Fast Food and Beverages

Concepts Tested:

- Market sizing
- Breakeven analysis
- Math structuring

Case #3: Burger Palace (1/6)

UNDISCLOSED – Round 1 – Candidate Driven

Quant Level – MEDIUM

Case Type

Industry

Client Type

Market Entry

Restaurants, Food & Beverage

Fast Food Restaurant

Fit Questions

1. Tell me about your most rewarding professional accomplishment.
2. Tell me about your most difficult professional challenge.

Interviewer Guidance

The primary objective is for the new restaurant to be profitable; Burger Palace's management will move ahead if it is. They would like to act as quickly as possible.

This is a straightforward profitability case that is good practice for a candidate to drive a case. The interviewer should not need to provide much guidance or prodding throughout the case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is Burger Palace, a Chicago area fast food restaurant with 20 locations. They have been approached by Midway Airport about opening a new location inside the main terminal.

They have asked us to come to a meeting with their CEO and tell them if we think this would be a profitable venture. How would you structure your approach to this question?

Case Development

1. Framework
2. Discussion/Q&A
3. Profitability analysis
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #3: Burger Palace (2/6)

Framework

Working hypothesis: Burger Palace should open the new restaurant in Midway.

- Profitability: Will the new restaurant be profitable?
 - Expected revenue
 - Volume of sales – estimate by looking at expected customers
 - Average revenue per sale – estimate by looking at avg. tickets at other Burger Palaces, customer research at Midway, or avg. ticket of similar restaurants in airport
 - Expected costs
 - Fixed costs – rent, food preparation equipment, operating expenses, salaried labor, royalty fees to Midway airport, advertising
 - Variable costs – hourly labor, ingredients (burger patties, buns, and fries), utilities
- Market: Will the new restaurant succeed in the airport food market?
 - Primary Competitors
 - Are the other restaurants similar in cuisine/style?
 - Would the other restaurants respond to the Burger Palace opening?
 - Customer Profile
 - Major customer groups: passengers and employees
 - Would customers respond positively to the healthiness of the food, speed of service, price, etc.?
- Risks: What other factors should Burger Palace consider?
 - Execution – would Burger Palace be able to successfully open and run the restaurant, given that it's their first airport location?
 - Strategy fit - How does this potential airport location fit into Burger Palace's broader business strategy? (e.g., expand reach, target new customer segments)

Interviewer Guidance

Candidates will take a variety of approaches to structuring an approach to this question. The primary things to look for are:

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should clearly demonstrate how the questions they're asking are directed at answering the specific question of whether Burger Palace should open a new restaurant.
 - It's less important for the hypothesis to be backed up with evidence, since it's so early in the case (though strong candidates will draw on their own knowledge and intuitions to develop preliminary insights about the potential for this new restaurant).
- Is profitability the primary consideration?
 - The prompt is very clear that profitability is the deciding factor for management. It's OK for candidates to discuss other considerations, but their primary focus should be on profitability.
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of the Midway fast food market, rather than just generic ideas about new market entry.

Case #3: Burger Palace (3/6)

Market Information

Provide the candidate with the information below when it is requested. Push the candidate to think about specific ways to estimate revenue, costs, and profits at Burger Palace. Don't simply disclose information if asked general questions about expected revenue, costs, or profits.

Burger Palace

Information has not been provided about other Burger Palace locations, although we do have some comparable revenue/cost information:

- The average transaction size is \$10.
- Variable costs are approximately 80% of sales revenue.
- Fixed costs will include:
 - \$200,000 in annual rent and fixed operating costs (includes the initial construction of the new restaurant).
 - \$80,000 as an annual royalty fee to Midway Airport.

Competition

- There are currently 7 restaurants at Midway. They each have an equal market share.
- If Burger Palace were to open a restaurant, we expect that each of the 8 restaurants would then gain an equal market share.
- We do not expect the number of total customers to increase because of the new Burger Palace location.
- We don't know anything about the types of restaurants currently at Midway.

Market Information (cont'd)

Sales Volume at Midway

Let the candidate structure their own approach and ask for all of the following information. If needed, prompt with, *"How would you estimate the number of customers that Burger Palace would have at Midway airport?"*

Passengers

- Hours/dates of operation: 6am – 10pm.
- Day open per year: 350 days
- Gates at Midway: 25
- Average planes per hour: 1 per hour per gate
- Average plane size: 175 passengers
- Average load factor: 80% (number of seats filled on average)
- Passengers who will eat each day: 5% of passengers will eat at Midway

Employees

- Number of employees: 2,000
- Employees who will eat each day: 60% of employees will eat at Midway

Case #3: Burger Palace (4/6)

Calculations (1/2)

Number of Passengers

- 25 gates x 1 plane/hr. x 16 hrs./day = 400 planes/day
- 175 capacity/plane x 80% avg load factor = 140 pax/plane
- 400 planes/day x 140 passengers/plane = 56,000 pax/day
- 56,000 pax/day x 1/8 BP market share x 5% eat each day = 350 pax/day at Burger Palace (note math shortcut that $56k/8=7k$)

Contribution from Passengers

- 350 pax/day x \$10 avg spend x 20% profit margin = \$700 profit/day (excl. FC)
- \$700 profit/day x 350 days/year = \$245,000 profit/year (excl. FC)

Number of Employees

- 2,000 employees x 1/8 BP market share x 60% eat per day = 150 employees/day at BP

Contribution from Employees

- 150 employees/day x \$10 avg transaction size x 20% profit margin = \$300 profit/day (excl. FC)
- \$300 profit/day x 350 days/year = \$105,000 profit/year (excl. FC)

Calculations 2/2

Annual Profit

- \$245,000 passenger profit + \$105,000 employee profit = \$350,000 total annual profit (excl. FC)
- \$350,000 - \$280,000 annual fixed costs = \$70,000 total annual profit

A strong candidate will identify and use math shortcuts:

- Use contribution margin directly instead of revenue and variable costs separately (i.e. using \$2 CM in one step rather than using \$10 revenue and \$8 costs in two steps).
- Add the 350 passengers and 150 employees to a 500 customer total before computing revenues and profits.

Interviewer Guidance

Some interviewees will have trouble starting the market sizing and may need a little nudge to begin thinking in that manner. That is OK--it isn't about whether or not they can read the interviewer's mind--it's about how logically they think about the problem as they go. Do they make realistic assumptions about how many people are on a plane? Do they account for the fact that the planes won't all be full?

Most interviewees will miss that customers will include both passengers and Midway Airport employees. If so, let the candidate go through calculations for passengers only, then ask, "Would anyone else be eating at Burger Palace?" Finally, proceed to the second calculation.

Case #3: Burger Palace (5/6)

Brainstorming: Optional

After the candidate has identified \$70 K in annual expected profit, ask, “*What are other factors that should be considered when opening a new restaurant at Midway Airport?*”

Potential Answers

Internal Factors

- Implementation & execution
- Staffing the new location
- Brand effects for Burger Palace
- Advertising & marketing

External Factors

- Competitive response within Midway
- Assumption about Burger Palace receiving 1/8 market share
- Customer preferences

Math Extension: Optional

If the candidate identifies market share as a risk and has performed well on the math, ask, “*You mentioned that Burger Palace may not be able to achieve 1/8 market share. What is the minimum market share that Burger Palace would need to break even?*”

The candidate should assume that the average transaction size is the same at other restaurants at Midway (\$10).

Breakeven occurs when:

- Annual Costs = Annual Revenue (i.e. Profit = 0)
- Annual Costs = \$280k + Annual Revenues x 80% variable costs
- Therefore, breakeven occurs when: \$280k = Annual Revenue x 20%
 - Note: this could be calculated directly from the alternative approach, breakeven occurs when: Fixed Costs = Revenue * % Contribution Margin

Market Size:

- Annual Revenue = Market Share x Market Size
 - Market Share is unknown; Market Size is known
- Market Size = (# pax/day + # employees/day) x Avg. Transaction x 350 days
- Market Size = (56,000 x 5% + 2,000 x 60%) x \$10 x 350 days
- Market Size = (2,800 + 1,200) x \$3,500 = \$14M

Combining these two sections:

- \$280k = Annual Revenue x 20% = Market Share x Market Size x 20%
- \$280k = \$14M x Market Share x 20%
- Market Share = \$280k/\$2.8M = 10%

Case #3: Burger Palace (6/6)

Recommendation

- A new Burger Palace location inside Midway Airport would be profitable, so Burger Palace should open the new restaurant
- The new restaurant should expect \$70,000 total annual profit
- We expect Burger Palace to receive 12.5% market share, although they would break even at only 10%

Risks

- Change in market share
 - We assumed we would split market share with the other Midway restaurants. Is this completely realistic?
 - Do we need to look deeper into what other/similar types of food are present at Midway and where they are located?
- Increase in costs or Midway Airport royalty payment

Next Steps

- Conduct market assessment to determine feasibility of assumptions and better understand competitive landscape
- Advertising/branding opportunities for Burger Palace's other locations – will opening this location help the other locations?
- Potential to charge higher prices: often chains charge higher prices at their airport locations to compensate for their royalty fees to the airport. Is there room for Burger Palace to raise prices?

Overall	Quant	Creativity
3	3	2

Case #4: Chicken Pox Vaccine

Case Type:

Investment Decision

Undisclosed – Candidate Driven

Industry:

Pharmaceutical/Healthcare

Concepts Tested:

- Chart clearing
- Market sizing
- Pricing
- Breakeven analysis

Case #4: Chicken Pox Vaccine (1/6)

UNDISCLOSED – Round 1 – Candidate Driven

Quant Level – HEAVY

Case Type

Industry

Client Type

Market sizing

Pharmaceutical /
Healthcare

Pharma
Manufacturer

Fit Questions

- Walk me through your resume.
- Why X Firm? (specify a Firm of interviewer choosing)

Interviewer Guidance

This case contains a lot of information to be given. Let the interviewee know we are only concerned with the US market. The candidate should ask questions on the vaccine (dosage, frequency, etc.). The key will be to identify that once the current population is vaccinated, the revenues will drop as the volume would only correspond to incremental population growth.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your client is a large pharmaceutical drug company working on a vaccine for chicken pox. The vaccine needs to pass three phases of testing to be approved by the FDA. It has just completed the second phase, and the client is asking for your help to decide if they should fund the third phase. The third phase would last 2 years and cost \$300M. Results from previous phases indicate the vaccine has a 95% chance of approval. We would be able to start producing vaccine immediately following approval.

Should our client invest or not?

Case Development

- Framework
- Market sizing - volume
- Pricing the product
- Cost-benefit analysis and discussion
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #4: Chicken Pox Vaccine (2/6)

Framework

Working hypothesis: The client should invest in the vaccine.

- Pharma Market

- Customer Segments
 - Likely children, potentially includes some adults
- Competition / Substitutes
- Size / Growth Rate
- Channels
 - Providers, pharmacy clinics

- Profitability

- Revenue
 - Price – per treatment
 - Volume – number of treatments needed (current pop.)
 - Future vol once current population is vaccinated
- Costs
 - Fixed costs
 - » Plant capacity
 - » R&D costs
 - » Investment / BE timeline
 - Variable costs
 - » SG&A
 - » Inputs for production, labor
 - “Discounting Cost” – do we need to discount these free cash flows (FCF)?

- Pharma Company

- Fit with existing products, i.e. other vaccines or childhood focused therapies?
- Opportunity cost - could this money be spent elsewhere?

Interviewer Guidance

- The below information should be provided only when candidate asks:
 - Vaccine is a one time injection.
 - Assume US population is 300M, and it is uniformly distributed from 0-75 (as many people enter population as leave every year).
 - It is estimated that it would take 3 years to vaccinate existing population, and would be done at an even pace.
- Interviewee should begin by sizing the US market.
- If interviewee has not asked about the portion of population that would need vaccine, then push him or her to go in that direction.
- When asked what portion of population would need vaccine, **Show only Exhibit 1, cover Exhibit 2.**
 - Candidate should be pushed to conclude that the portion of the population needing the vaccine is that with an infection rate of less than 50%.

Case #4: Chicken Pox Vaccine (3/6)

Exhibit 1

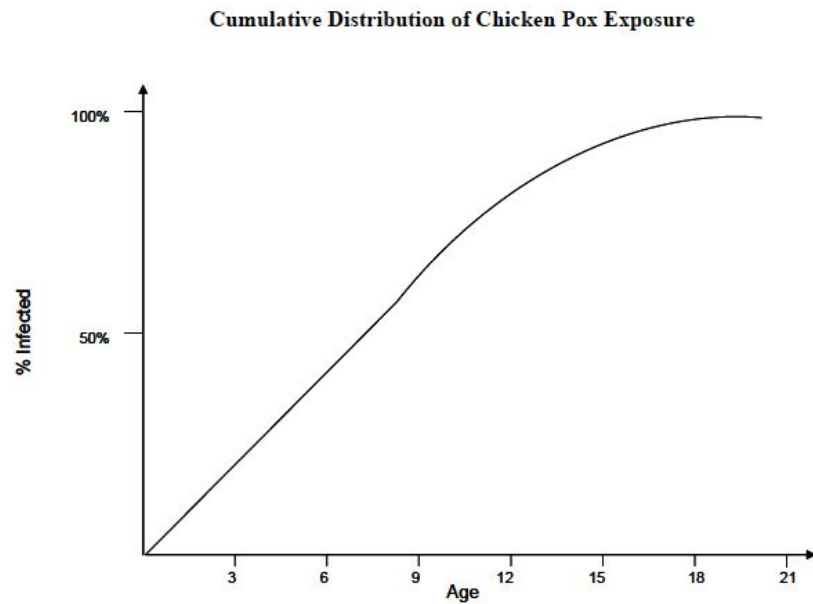
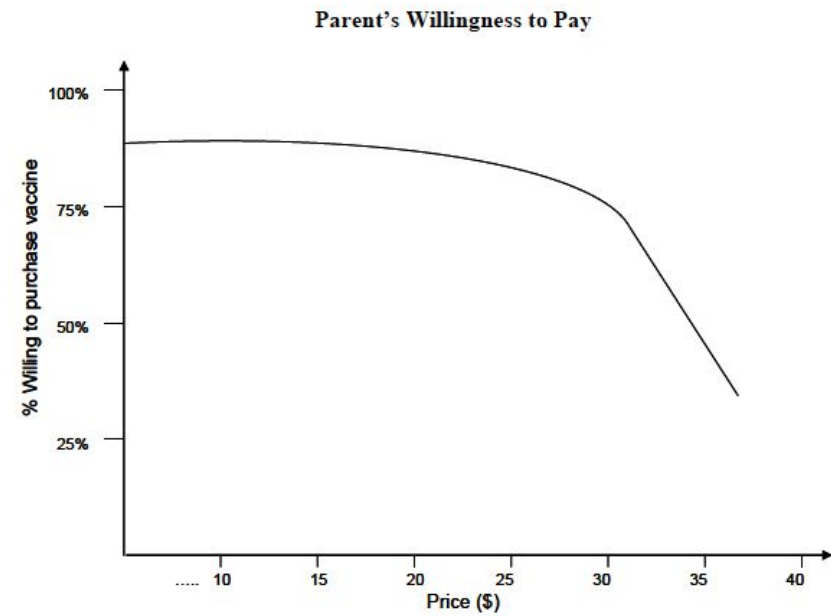


Exhibit 2



Case #4: Chicken Pox Vaccine (4/6)

Market Sizing: Volume

Candidate should begin by sizing the population that can be treated by this drug, which can be viewed in two parts: existing population when vaccine is released and people that will be born every year.

Insights from Exhibit # 1

- By age 18, 100% of the population has been exposed to chicken pox and thus does not need the vaccine.
- $300M/75 = 4M$ people of each age; $4M \times 18 = 72M$ people ages 0-18
- Since only those who haven't been infected would need the vaccine, we should vaccinate ages 0 – 9, 50% of the 0-18 population. This is used as a cut off point since population is evenly distributed, those younger than 9 have >50% chance of not having been infected and those older than 9 has <50% chance of not having been infected.
 - $72M \times 50\% = 36M$ in addressable market

Pricing the Product

When asked about price, **show Exhibit 2.**

- Client should price at \$30. While an argument could be made for a lower price point, the inflection point at \$30 and low price elasticity below \$30 suggests it is the right price point.
- There is a slight decline between \$25 and \$30 that will lose a small population for \$5 more per unit over total populace, but slope of demand gets considerably steeper after \$30.
- At \$30, notice that only 75% of the market is approachable for vaccination.

Interviewer Guidance

- Probe interviewee to recognize that population with < 50% chance of infection can be considered as “not infected”.
- Population that is already infected (>50% infection) should not be treated first – vaccination doesn't work for them.
- Candidate can also use 320M for the US population and assume even distribution of population from 0 to 80 years.
 - Each age range would still have 4 M people.
 - Infection assumptions remain the same regardless of initial population size and age range used.

Provide the following only when asked:

- Costs (per injection):
 - Distribution \$1.50
 - Production \$2.50
 - SG&A \$5.00
- Assume the \$300M costs for phase three includes everything else (plant set up costs, etc.) and can be expensed evenly over the 2 years of testing.

Case #4: Chicken Pox Vaccine (5/6)

Cost-Benefit Calculation

- Net target population for vaccination is:
 - Population (age 0-18) * (% not infected) * (% willing to pay)
 - $72 \text{ M} * 50\% * 75\% = 27\text{M}$
 - 9M treated per year based on the assumption it takes 3 years to vaccinate existing population.
- In addition, there are 4M babies being born each year (as population is steady state), with parent willingness to pay staying constant at \$30.
 - Thus, $4\text{M} * 75\% = 3\text{M}$ vaccinations per year.
- Total costs per injection are \$9 (see prev. page) and thus, the contribution margin is \$21/injection.
- An example of math structure to calculate net profit for three years after vaccine approval is shown below. Note that a strong candidate will use the contribution margin to calculate net profit for each of these three years and compare the total profit to the initial 300M investment.

Year (Millions)	1	2	3	4	5	6	...
Existing Population Vaccines			9	9	9		
New Baby Vaccines			3	3	3	3	3
Total			12	12	12	3	3
Revenue			360	360	360	90	90
Costs	-150	-150	-108	-108	-108	-27	-27
Net Profit	-150	-150	252	252	252	63	63

Key Takeaways

Good candidate:

- Profitability during first 3 years is \$756M, annuity profit is \$63M from year 6 onwards.
- Breakeven in ~1.25 years.

Stronger candidate:

- Pharma companies usually have rather high hurdle rates (or discount rates) due to the risky nature of their business model, but any reasonable rate will yield a high positive NPV.
 - Candidate does not need to calculate NPV – just recognize high positive value.
- Interviewee should also mention the percentage chance of failure (for example 5%) and discuss how that could affect the calculation (there are a couple correct ways to interpret the effect).

Case #4: Chicken Pox Vaccine (6/6)

Brainstorm

Do we need to be worried about any new entrants?

Note: Many interviewees will blindly say yes. If this occurs, provide the information in the first bullet below. This should prompt the candidate to ask about the rest of the data.

This information is only to be provided when asked:

- Vaccine will not be patented.
- Other companies would have to undergo same series of testing and no other companies have started formal testing of vaccine.
- Phase 1 and 2 combined take 3 years (we have 3 years of competitive protection); Phase 1 and 2 cost \$200M.

Suggested Response

We do not need to worry about potential new entrants.

- Since there is a natural three year protection due to required FDA testing, other companies would not be able to capture the “existing population” segment of the market. Assuming they do enter in year 6, we would be sharing only 3M vaccines per year. Even assuming they were able to capture a decent portion of the market, they wouldn’t be able to cover the upfront testing costs for years.
 - With 50% of market and holding price constant (which is itself unrealistic), competition gets only \$31.5M, and breakeven time is ~10 years.
 - Under more likely scenario where price is reduced in half to \$15, competition only gets \$9M if they get 50% of market, and breakeven time on phase 3 alone is ~33 years. Calculation: $(\$15 - \$9) * 3M * 50\% = \$9M$.
 - Costs for phase 1 and 2 should not be used when calculating go/no go since they are sunk, but should be considered when evaluating competitors’ decision.

Recommendation

- **Client should invest in the chicken pox vaccine**
 - Breakeven in 1.25 years, profitability during first 3 years is \$756M, annuity profit is \$63M
 - Charge \$30 per injection, gross margin of \$21 (70%)
 - Target ages 0-9; 75% of parents willing to pay at this price point

Risks and Next Steps

Risks

- Risk of potential new entrants
 - Pharmaceuticals usually have high hurdle rates, and, given that we will have 3 years protection from FDA process and will corner the existing market, it will take several years for competitors to breakeven; therefore, competitors have no real incentive to enter, even for generics

Next Steps

- Develop a roll-out / implementation plan for the investment
 - Including channel strategy and any fit with existing products from client

Overall	Quant	Creativity
1	2	1

Case #5: Cleaning Products

Case Type:
Growth Strategy

McKinsey & Co - Interviewer Driven

Industry:
Consumer Product

Concepts Tested:

- Chart clearing
- Calculating revenue changes

Case #5: Cleaning Products (1/5)

McKINSEY & CO – Round 2 – Interviewer Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Growth Strategy

Consumer Products

Manufacturer

Fit Questions

- What is the biggest challenge you faced at your last job and how did you navigate it?
- What is your leadership style? Tell me about a time when you effectively led a team by leveraging this leadership style.

Interviewer Guidance

This is a short case designed to test a candidate's ability to interpret simple information and think creatively. The recommendation is fairly straightforward, and most candidates will arrive at the same conclusion. The interviewer should take note of the candidate's delivery. Strong candidates will anticipate the interviewer's next question and drive the discussion forward. The best candidates will flesh out this basic case with out-of-the-box thinking and creative recommendations.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a prominent manufacturer of household cleaning products such as soap. They feel that an opportunity exists for them to do better in the market. *What will be some of the first things that you will ask the client?*

Interviewer Guidance

Drive the candidate to ask what is meant by “doing better in the market” before writing out a full framework. If the candidate doesn't bring it up, guide the discussion in that direction. Possible replies by candidate may include stronger growth, more market share, more profitable, etc.

Case Development

- Framework
- Structured Brainstorming / Q&A
- Final Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #5: Cleaning Products (2/5)

Interviewer Guidance

- A simple internal/external factors framework is effective here, but any number of frameworks could work well. The framework below is illustrative of a backbone that ought to be fleshed out in greater detail.
- Internal:
 - Revenues
 - Price (relative and absolute) / price elasticity
 - Quantity, product mix, channel mix (grocery vs low cost vs bulk (e.g. Costco))
 - Expenses
 - Fixed costs (PP&E, SG&A, advertising, etc.)
 - Variable costs (labor at factories, raw material such as plastic, shipping, etc.)
- External
 - Market (growth, percent share)
 - Competition (new entrants, differentiation, price)
 - Customers (preference, trend toward environmentally friendly products)

Transition Statement: I would like to begin by better understanding client revenues, and then I would like to examine their product mix. First, do we know client sales last year?

Framework

- Once candidate presents the framework, ask:
 - *What questions will you ask our client to help you get the information you need?*
- Only provide the following if asked. If not, drive the candidate towards the information:
 - Revenues in the last year were \$3 billion.
 - The client's product mix includes dish washing powder, clothing detergent powder, hand wash liquid, shower gel, and all-purpose soap.
 - There are no opportunities in cost savings or by adding new products to the mix.

Case Development

- After presenting the framework and learning the information in the section above, a strong candidate will conclude the following:
 - It appears that the only way to increase profitability is to improve revenues.
 - Possible ways to do this include increasing sales volumes or altering prices.
 - The firm can increase volumes by either grabbing more market share or growing the total available market.
- A strong candidate might ask a number of questions at this point, but guide the discussion towards price elasticity. **Show Exhibit 1** on the following page.

Case #5: Cleaning Products (3/5)

Exhibit 1: Price Elasticity

Based on your ideas, you conducted a market research study. Your research has shown that if the prices of the client's products are changed all at once in the percentages shown, the volumes of the products sold will remain unchanged. Note that changes in price either all happen at the same time or none of the changes are made at all (i.e., they will either change all the prices below or none of them).

Product	Price change % that can be implemented without changing volume	% of revenues (Current)
Dish Washing Powder	-2	5
Clothes Detergent Powder	1	20
Hand Wash Liquid	0	30
Shower Gel	2	30
All-Purpose Soap	4	15

Case #5: Cleaning Products (4/5)

Interviewer Guidance

- Allow the candidate to talk through their insights from Exhibit 1. A strong candidate will understand they have enough information to calculate the new revenues associated with the price change and drive the discussion forward. Either way, ask the following question:
 - The client has told us that they will be happy with a 1% increase in revenues. Should they go ahead with the price change?*
- The candidate should calculate current revenue and revenue after price change from table (i.e. the candidate should come up with the two rightmost columns in the table below). Strong candidates will recall from earlier in the case that total current revenue is 3 billion dollars.

Product	Price change % that can be implemented without changing volume	% of revenues (Current)	Current Revenue (\$mil.)	Revenue after price change (\$mil.)
Dish Washing Powder	-2	5	150	147
Clothes Detergent Powder	1	20	600	606
Hand Wash Liquid	0	30	900	900
Shower Gel	2	30	900	918
All-Purpose Soap	4	15	450	468

- Based on these calculations, revenues will be \$3.039 billion after the price change representing an increase of \$39 million. The client's target was \$30 million (1% revenue change), so they should go ahead with the price change.
 - A strong candidate will recognize that they can calculate the overall change in revenue by summing the difference in revenue by product to arrive at the \$39M increase in revenue.

Case #5: Cleaning Products (5/5)

Brainstorm

- Ask the candidate: *is there anything that our client should watch out for?*
Sample responses may include:

Internal

- Geography: Does the research reflect all the client's key markets?
- Cost Increase: There may be some additional costs associated with price increases (i.e. advertising to explain price increase) that may eat into profits generated through the \$39M additional revenue.
- Sustainability of revenue increase: This is a one-time increase in revenues. The client cannot expect to continue raising prices to keep a steady top-line growth.

External

- Competitive response: Competitor's moves may undermine our price changes.
- Legal: Are we a monopoly producer? If so, we may invite antitrust lawsuits by increasing prices.
- If the candidate stops after two or three ideas, probe them by asking "what else?" to come up with at least four or five ideas before proceeding to developing a final recommendation. This should be an opportunity for the candidate to demonstrate structured thinking.

Recommendation

Recommendation

Go ahead with the price change

- Revenue will increase by \$39M, which is higher than the goal of a 1% increase
- Given price changes will not cause a decrease in volume of the products sold

Risks

- Research may not have been fully reflective of client's geographic / demographic market
- Research is based on the status quo – if competitors use the opportunity to lower prices, we may lose customers and revenue
- Research only considered one change option; there may be more optimal price changes that could be made

Next steps

- Pilot the recommendation in one market to confirm the results from the market research
- Explore other potential channels to grow revenue organically (e.g., online) and consider expanding marketing and sales effort to improve market share in profitable products
- Cost cutting diagnostic could be done to see if there are other avenues to improve the bottom line

Overall	Quant	Creativity
2	3	1

Case #6: Coffee and Tea Apparel

Case Type:

Mergers and Acquisitions

Deloitte – Interviewer Driven

Industry:

Retail & Apparel

Concepts Tested:

- Chart clearing
- Calculating revenue changes

Case #6: Coffee and Tea Apparel (1/7)

DELOITTE – Round 1 – Interviewer Driven

Quant Level – HEAVY

Case Type

Industry

Client Type

M&A Analysis

Retail & Apparel

Clothing Retailer

Fit Questions

- What has been your most significant professional accomplishment?
- Tell me about a weakness.

Interviewer Guidance

There are several questions which will be outlined in this case. You should provide the below information as background and distribute a copy of the data sheet on the next page for the candidate's reference throughout the case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Deloitte has been asked to help the client, Coffee, evaluate a hold or sell decision. Coffee is a large multinational women's clothing retailer with worldwide revenues of over \$3B in 2016. They sell sports, formal and casual apparel. The company as a whole has been performing strongly and has emerged out of the financial crisis with strong sales growth and many investment opportunities. Despite the company's strong performance overall, its American operation has an underperforming brand that they have put up for review. The firm has also closed some of the brand's associated stores.

The American operation has two major brands: a formal wear brand bearing the same name as the company, "Coffee," and a casual wear brand named "Tea." The brands are sold through the following channels:

- Coffee branded retail stores: \$200M in annual revenues
- Tea branded retail stores: \$20M in annual revenues
- Coffee branded outlet stores: \$150M in annual revenues
- Wholesale sales to major retail chains (e.g., Macy's): \$600M in annual revenues

The Tea brand has historically been neglected because management has focused its resources on the core business – the Coffee brand. Nonetheless, the Tea brand has consistently put up a profit with minimal management attention and capital reinvestment. Essentially, Coffee wishes to understand whether they are better served by divesting the Tea brand and refocusing their attention on their core Coffee brand business or holding the Tea business and simply "milking the cash cow."

Case Development

- Background discussion
- Data sheet discussion
- Questions 1-5
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #6: Coffee and Tea Apparel (2/7)

Data Sheet

• Management has decided that the terms of the sale will be as follows:

- Sale of Tea brand will include only Tea's branded product sales in Tea's retail channel and Tea's wholesale business
- Buyer will not have access to Coffee's Outlet stores or Coffee branded retail stores for distribution

Revenue Multiples: Consumer Product

Transactions in the U.S.

Brand vs. Channel Sales CY2016

(\$M)	Coffee branded retail stores	Tea branded retail stores	Coffee branded outlets	Wholesale
Coffee Brand products	180	10	120	540
Tea Brand products	20	10	30	60

Note: Sales in the Wholesale channel are expected to remain unchanged in CY2017

Number of Retail Stores

	Start of 2015	Start of 2016	Start of 2017
Coffee branded stores	100	125	150
Tea branded stores	45	32	20

Note: All store closings and openings occur at the start of the calendar year. Number of outlet stores remains constant

	Revenue multiple	Deal size (\$M)	Deal date
Transaction A	0.6	147	January 2016
Transaction B	0.7	300	March 2016
Transaction C	0.9	180	April 2015
Transaction D	0.6	70	October 2015
Transaction E	1.9	5	November 2012

Tea Brand Business Historical Performance

(% of sales)	2014	2015	2016
Revenues	100%	100%	100%
Gross Profit	23%	23%	22%
EBIT	12%	11%	10%
SG&A	5%	6%	6%
COGS	77%	77%	78%

Note: Contains all sales of Tea Brand Products

Case #6: Coffee and Tea Apparel (3/7)

Framework

Working hypothesis: Coffee should hold the Tea brand. The following considerations will be used to test whether this hypothesis holds true.

Market

- Channels: retail, outlet, wholesale
- Customer preference: coffee v. tea
- Competitor response
 - Ability to remain competitive if only in coffee market

Projected Revenues

- Holding Tea:
 - By channel for Coffee & Tea products
 - # Stores by channel
 - Breakeven (if hold, when is cash flow equivalent to sale of Tea?)
- Divesting Tea
 - Projected valuation
 - Premium on purchase for buyer (own synergies, ability to fill Tea stores with their own products)
 - Buyer may view scenario differently and want to negotiate purchase price
 - Ability to fill Coffee stores with higher revenue products than from Tea

Risks

- Holding Tea: may no longer be 'cash cow' over time
- Loss of diversification / synergies from divestiture
 - Impact on Coffee brand loyalty over time
 - Potential sourcing issues if reliant only on international suppliers for raw material
- Tariffs on coffee / tea apparel imports and associated revenue impact

Interviewer Guidance

Strong candidates should focus on revenue generation for the two options (holding Tea or divesting), but they should not forget to look into other success metrics such as:

- Customer perception and loyalty
- Brand development
- Benefits from holding / selling Tea
- Risks associated with holding / selling Tea

Case #6: Coffee and Tea Apparel (4/7)

Question 1

Provide the below questions to the candidate:

Question #1A:

Using the terms of the sale from the data sheet, find the associated revenues for 2017 that the buyer would receive from buying Tea?

- Interviewer can mention that the terms of the sale are available on the data sheet given their importance.

Question #1B:

Using the terms of the sale from the data sheet, find the associated 2017 revenue that Coffee could maintain by not selling Tea?

Calculations / Insights

Question #1A:

Candidate should do the following:

1. Isolate the revenues of the part of the business being put up for sale (Tea's retail + Tea's wholesale).
2. Project Tea's retail revenues by using proportional change of stores from 2016 to 2017.
3. Tea's wholesale revenues will not change from 2016 to 2017.

Revenue (\$M)	Coffee branded retail stores	Tea branded retail stores	Coffee branded outlets	Wholesale
Coffee Brand products	180	10	120	540
Tea Brand products	20	10	30	60
Fraction of 2016 stores in 2017	-	$20/32 = 0.625$	-	1 (no change)
2017 revenues		$10 * 0.625 = 6.25$		60

Question #1B:

Candidate should do a similar analysis as below:

Revenue (\$M)	Coffee branded retail stores	Tea branded retail stores	Coffee branded outlets	Wholesale
Coffee Brand products	180	10	120	540
Tea Brand products	20	10	30	60
Fraction of 2016 stores in 2017	$150/125 = 1.2$	$20/32 = 0.625$	1	1 (no change)
2017 revenues	$1.2 * 20 = 24$	$10 * 0.625 = 6.25$	30	60

Total Revenues = \$66.25M (see Q 1A above) + \$24M ($1.2 * \20 M from Coffee retail) + \$30M (from Coffee outlet) = \$120.25M

Case #6: Coffee and Tea Apparel (5/7)

Question 2

How would you value the sale scenario and hold scenario? Please use available data to support your argument.

Interviewer Guidance

Push the candidate to perform the below steps:

1. Take revenues calculated from previous question.
2. Refine revenue multiple to adjust for outliers and dated information.
3. Apply revenue multiples to value the two scenarios.

Potential Response

Candidate should determine a revenue multiple from the data sheet.

Good Answer:

Average of all deal multiples is ~0.9.

- Sale = \$66.25M * 0.9 = ~\$60M
- Hold = \$120.25M * 0.9 = ~\$108M

Better Answer:

Remove Transaction E as it is dated and reflects inflated pre-crash asset prices. Doing this yields an average deal multiple of ~0.7.

- Sale = \$66.25M * 0.7 = ~\$46M
- Hold = \$120.25M * 0.7 = ~\$84M

Additional Thoughts in a Great Answer:

Sell Scenario:

- Buyer may have existing channels that can satisfy the demand; or buyer can build channels from scratch.
- Buyer is also purchasing the remaining store leases as part of its purchase price, so ability to fill up space in Tea stores currently filled by Coffee branded products may also attract a slight premium.
- Coffee's ability to replace the lost revenue streams associated with the sale will improve the attractiveness of the sell scenario but should be wary of the buyer seeking a discount for having to replace the lost revenue where Coffee products were sold.
- The buyer can capture some of the existing demand for the Tea brand currently satisfied through Coffee branded retail stores and Coffee branded outlets (i.e., a portion of each of the \$20M and the \$30M).

Hold Scenario:

- Candidate can compare Coffee's return on investment to Tea's to determine if there is any merit in investing money into Tea to turn it around.

Case #6: Coffee and Tea Apparel (6/7)

Question 3

If Coffee decides to hold the Tea brand, how long will it take for the cash flow from Tea to equal the amount of money that Coffee would have received through selling Tea?

Note: Candidate should use \$50M as the sales price in the calculation, ignore time value of money.

If asked, tell the candidate to assume no depreciation / amortization or changes in working capital. (So, we would make cash flow equal to EBIT minus taxes.)

Response to Question 3

Good Answer:

Using \$120.25M of revenue from question 1B, candidate can use the 10% EBIT margin to get close to cash flow.

$$10\% * 120.25M = \sim \$12M \text{ per year}$$

Therefore, breakeven = \$50M/\$12M or ~4 years.

Better Answer:

- Candidate should realize that EBIT is not the true cash flow and should take taxes out.
- Assuming 40% tax rate, net earnings % would be 6% ($10\% * 0.6$).

$$6\% * 120.25 = \$7.2M \text{ per year}$$

Therefore, breakeven = \$50M/\$7.2M or about 7 years.

Question 4

Based on your analysis, what would you recommend Coffee do?

Response to Question 4

- The candidate should compare the value of the sale scenario (~\$46M) to the hold scenario (~\$84M) – refer to Question 2.
- Based on the analysis, the conclusion should be to hold onto the Tea brand. The candidate should at minimum recommend that Coffee pursue the scenario with the higher valuation.

Case #6: Coffee and Tea Apparel (7/7)

Recommendation

If candidate chooses to hold Tea, the candidate should mention:

- Hold value to Coffee exceeds the sell case
- There may be an opportunity to improve the performance of Tea that may require extra investment: open more Tea retail stores, enterprise cost reduction program, take brand international, take brand to a broader range of potential wholesale clients (e.g. independent retailers)

If candidate chooses to sell Tea, the candidate should mention:

- Some revenue streams from Tea branded goods are likely to be readily replaced by Coffee's operations
- Allows Coffee to gain as much as possible for the Tea retail business before it loses more value
- Mention the fact that as long as the trend continues to close the Tea stores, the valuation for Tea may go down

Risks and Next Steps

Hold:

- Risks
 - Holding Tea could allow the retail business to continue to leak value. The combined effects of store closures and steady decline in EBIT margin (12% in 2014 to 10% in 2016) has resulted in a significant reduction in Tea's retail profits. The bulk of Tea's value increasingly lies with the wholesale business.
- Next Steps
 - Coffee needs to assess whether this declining trend in the Tea retail outlets will continue and determine if that is potentially harmful to the overall business.

Sell:

- Risks
 - Loss of opportunity related to the hold scenario revenues
 - Buyer may try to negotiate a discount for having to replace lost revenue for where Coffee products were sold
- Next Steps
 - Determine extra investment needed to hold and improve Tea and determine if there is any scenario where the hold value of Coffee still exceeds the sell case including additional investment
 - Determine sell terms suitable for Coffee that do not include discounting the sale value of Tea

Interviewer Guidance

Arguments can be made to substantiate either sell or hold, but make sure that reasons are given for what the candidate chooses.

A good answer will be logically structured to address various business considerations including:

Overall business strategy for women's apparel: Does Tea's brand, product mix, and styling fit within the overall strategy of Coffee's vision? This is potentially an overriding factor in the decision to buy or hold the business.

Ability to Change: In a hold scenario, does Coffee have the appetite to fully implement the changes required to halt the slide of Tea?

Impact to Remaining Revenue Streams: Candidate should explore the impact that a divested business unit will have on the portions of the business that remain.

Potential Buyers: Who are the prospective buyers for the business, and what are the potential issues with making a deal with each one?

- Private Equity: Potential carve out experience, but unlikely to overpay for asset. If they do not have other similar businesses in their portfolio, will need to set up their own back office functions.
- Strategic buyer: May take brand up or down market; an existing retail buyer may want to close the rest of the Tea retail stores; lack of back office will make it difficult for some buyers to do a "bolt-on" business.

Transaction Costs: Banker costs and potential loss of management focus on the core business during deal will make sale scenario less attractive.

Stranded Costs: There may be services across the two brands that are shared and may be stranded upon sale.

Overall	Quant	Creativity
2	2	2

Case #7: Commercial Vehicle OEM in China

Case Type:

Growth Strategy

Strategy& – Candidate Driven

Industry:

Transportation & Automotive

Concepts Tested:

- Brainstorming
- Breakeven analysis

Case #7: Commercial Vehicle OEM in China (1/5)

STRATEGY& – Round 1 – Candidate Driven

Fit Questions

1. What can you contribute to our consulting team?
2. Why did you choose this geographic location?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is Matthew Stafford, CEO of Megatron International, a global commercial vehicle OEM.

The company is successful and has strong positions in “mature” markets - i.e., North America and Western Europe. Nonetheless, while it entered China five years ago, it has struggled to grow there. This is particularly troubling since China has become the world’s largest market and now represents 80% of global demand by volume.

We have been tasked to help Stafford and Megatron profitably increase its share position in China.

Quant Level – MEDIUM

Case Type

Industry

Client Type

Growth Strategy

Transportation & Automotive

Manufacturer

Interviewer Guidance

A key assumption to this case is that profitability will result from growth - the critical question is how to increase share.

There are two dimensions:

- **Qualitative discussion (10 - 15 min)**
 - Why did Megatron originally believe it could be successful in China?
 - Why has Megatron struggled in China?
- **Quantitative calculation (10 - 15 min)**
 - Should Megatron proceed with the capital investment?
 - What are the risks to each decision?

Case Development

1. Framework
2. Qualitative brainstorming
3. Quantitative analysis
4. Recommendations

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #7: Commercial Vehicle OEM in China (2/5)

Framework

OEM Market in China

- Growth and size of market
- Customer:
 - Preferences – quality considerations; price-sensitivity; ability to pay for vehicle
- Competitors:
 - Product differentiators; fragmented or concentrated mkt.
- Geographic location

Profitability

- Revenue:
 - Price of vehicles manufactured, # sold, by region
 - Product mix
- Costs
 - FC: PPE, initial investments-recouped?
 - VC: labor, per vehicle mfg., distribution, salesforce

Company

- Capabilities
 - Scale in manufacturing, low-cost, global
 - Excellent product quality, brand reputation
- Risks
 - Entering unfamiliar emerging market
 - Lack of parts / service availability / dist. Network for regions

Transition statement: I would like to consider Megatron's positioning in China along each of these three parameters to better understand their current abilities relative to that of their competitors.

Interviewer Guidance

Strong candidates should focus on market considerations, profitability of the client, and the client's overall capabilities and risks it has as a company in the Chinese OEM market.

If candidates do not consider the company's capabilities, push them to do so before continuing with the case.

Case #7: Commercial Vehicle OEM in China (3/5)

Question: China Entry

As we mentioned, Megatron is an established and successful player in North American and Western European markets.

Looking back at the decision to enter China five years ago:

What capabilities did Megatron assume it could bring to bear as it expanded into China? Or, put another way, what advantages that helped drive its success in mature markets would have been most applicable as it expanded into emerging regions?

Push the candidate to go beyond their initial thoughts from their framework by asking, “*what else?*”, as the candidate walks you through their ideas.

Interviewer Guidance: China Entry

There is no data to support the question - the interviewee is merely to provide hypotheses. A strong response would draw out the various steps of the value chain and then comment on whether or not such capabilities could be transferred to China; for example:

- Strong product development capabilities
- Scale in manufacturing
- Low-cost and global manufacturing footprint and supply chain (it currently supplies two regions)
- Excellent product quality and reliability
- Strong brand / marketing and sales capabilities
- Global management team

Question: Capabilities

Despite these advantages, Megatron has clearly struggled to increase its presence in China.

What capabilities do you think it lacks? What factors have likely contributed to its difficulties?

Interviewer Guidance: Capabilities

Again, there is no data - the candidate is asked to develop hypotheses. A strong response must mention lack of local market knowledge - i.e., unfamiliarity with new competitors, customer needs, buying criteria, product requirements, etc.

Additional factors that may be mentioned include:

- Inadequate dealership network
- Lack of parts / service availability
- Over-engineered product
- Lack of regional scale

Note: Candidate may mention concerns around government involvement in market / need to find local JV partner: while these are very valid concerns, they are not the focus of this example.

Case #7: Commercial Vehicle OEM in China (4/5)

Case Development

At this point, the interviewer will direct the candidate to explore in greater depth the issue of “lack of local market knowledge”.

- The Chinese commercial vehicle market is dominated by domestic firms, which control 90% of volume (five major players - top domestic OEM controls 20%).
- These competitors have adopted a completely different strategy:
 - While Megatron trucks are built to last for twenty years, Chinese entries are far less durable - lasting for, at most, 4 years.
 - Nonetheless, these trucks are far less expensive - priced at $\frac{1}{4}$ the amount of Megatron's.
 - This value proposition plays well to Chinese customers, for whom price and payback period are critical considerations.
- In attaining market leadership, Megatron is considering introducing a new brand - Ndamukong Inc. - with products specifically built for the Chinese market.
- These products would be priced similarly to those of the competition, with equivalent performance / cost trade-offs.
- We are to advise Stafford and Megatron on whether or not to invest in Ndamukong.
- To simplify, the required investment would consist of a \$500M facility / supply base / distribution network to produce Ndamukong-branded commercial vehicles.

Interview Guidance

Breakeven Calculation

- The interviewer should share the following information with the candidate only upon request.
 - Total size of global market: 500K units
 - Price of Ndamukong vehicle: \$50K per unit
 - COGS of Ndamukong vehicle: 75% of price
 - SG&A: \$10K per unit
 - Stafford and Megatron would require a break-even period of 4 years.
 - For ease of calculation, the Chinese truck market is not expected to grow over the next five years.
- The key calculation is to determine the market share required to breakeven on the investment within the four-year time frame.

Breakeven Calculation

- Size of Chinese market = $500K \times 80\% = 400K$ units
- Variable margin per vehicle = $\$50K - (75\% \times \$50K) - \$10K = \$2.5K$
- Vehicle sales required to breakeven = $\$500M / \$2.5K = 200,000$ units
- Vehicle sales per year required to breakeven = $200,000 \text{ units} / 4 \text{ years} = 50,000$ units
- Market share required = $50,000 / 400,000 = 12.5\%$
- Candidates could also perform additional calculations:
 - Calculate additional profit potential - each 1% share delivers \$10M in variable margin.
 - Describe share as percent of domestically-controlled market ($14\% = 50K / 360K$ annual units), as this is the most applicable segment for Ndamukong products.

Case #7: Commercial Vehicle OEM in China (5/5)

Recommendation

Either go or no go for the investment is acceptable.

Recommendation

Megatron should proceed with its investment in the Chinese commercial vehicles market and strive to achieve at least a breakeven market share of 12.5%

- This must be achieved by adapting to local preferences while maintaining a level of differentiation compared to domestic OEMs. Only then would it be capable of reaching the market share required to be profitable. Ignoring the largest commercial vehicle market would be terribly prohibitive for future growth.

Evaluation

Strong recommendations will pick a firm position and provide back-up using qualitative and quantitative analyses previously conducted as supporting evidence.

Risks and Next Steps

Risks Proceeding

- Failure to obtain required share due to competitive pressure / inability to distinguish Ndamukong offering in the market
- Dilution of Megatron brand / confusion over brand promises (i.e., customers expect Megatron quality from Ndamukong product)
- Megatron may lack the capabilities to engineer to “high enough” standards

Next Steps Proceeding

- Competitor analysis to assess feasibility of and ways in which to achieve the 12.5% market share
- Customer insights study on brand image
- Explore partnership with local organizations to enhance local market knowledge and to identify potential 3rd-party manufacturers to help produce vehicle at “high enough” standards

Risks Not Proceeding

- Omission from world’s largest commercial vehicle market and cession of global scale to Chinese OEMs
- Failure to develop manufacturing / design capabilities with which to serve other emerging markets

Next Steps Not Proceeding

- Re-focus efforts on other emerging markets and determine if opportunity exists to enter a smaller market and be biggest player
- Create prioritization plan for internal growth of capabilities that best align with customer needs in emerging markets of interest

Overall	Quant	Creativity
2	2	3

Case #8: Consumer Product Strategy

Case Type:
Market Entry

BCG – Candidate Driven

Industry:
CPG

Concepts Tested:

- Marketing Strategy
- Competitive Dynamics
- Willingness To Pay

Case #8: Consumer Products Strategy (1/6)

BCG – Round 1 – Candidate Driven

Quant Level – MEDIUM

Case Type

Industry

Client Type

Market Entry

Consumer Products

Manufacturing

Fit Questions

1. What kind of a leader are you?
2. Tell me about a time when someone on your team challenged you.

Interviewer Guidance

This case features a combination of quantitative analysis and brainstorming. A strong candidate will cater their approach, framework, and brainstorming to the specific situation at hand focusing on low income consumers as opposed to treating it as a generic consumer goods growth case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large, multinational consumer products company with business in over 200 countries. Today, we are going to focus on its US business. It has been following US demographic trends and has found that low income households have been growing 2X (twice) as quickly as other consumer segments. Low income is defined as families with income at the poverty level or below.

Our client has always had a premium product strategy. It sells its products in grocery stores, convenience stores, mass retailers, etc., but its products are always priced at the high-end of their respective categories. It has never targeted the low income segment before and doesn't have a strategy to do so, but, given the growth of this segment, our client is considering entering the low income segment.

Our client has 3 questions for BCG:

- 1) Should it have a low income strategy?
- 2) If it should have a low income strategy, what are some tactics it should deploy?
- 3) What are some of the risks the client may face?

Case Development

1. Framework
2. Quantitative analysis
3. Brainstorming
4. Recommendations

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #8: Consumer Products Strategy (2/6)

Market

- Low income consumers
 - Demographics (who is buying? – age, gender, socioeconomic status)
 - Price sensitivity
 - Product preferences (brand v. generic)
 - Channel selection for these consumers (neighborhood store)
- Competitors
 - Low-cost producers (Walmart, Costco, Dollar store)
- Segment growth, size

Profitability

- Revenue
 - Price of product by category: high WTP for select products (e.g. shampoo, baby food)
 - Volume sold for lower-priced products
- Costs
 - FC: manufacturing setup costs, initial investment to enter new channels
 - VC: per unit costs, labor, distribution, salesforce, marketing for new products

Consumer Products Company

- Capabilities to add new product strategy
- Risks:
 - Consumer loyalty to competitors
 - Access to our products: arrival to store by transportation methods (e.g. car, bus, train), geographic location of storefronts in cities

Transition statement: I would first like to begin by analyzing revenue for some of the client's products, such as food and medicine, and then analyze low income consumers' spend by these different product categories. Do we have any similar data?

Framework

Information to be provided upon request:

- Low income consumers purchase largely in smaller, local shops.
- Low income consumers can't afford salons but will indulge on shampoos.
- Low income consumers are willing to spend more on baby food to protect their children.
- There are valid generics that compete with our client's cold medicine.

The framework should include:

- The framework should be catered to the case, i.e. consumer goods strategy in the low income market. There are issues specific to this population. A strong framework would not be reusable in a generic consumer goods case.
- A market examination including consumer preferences.
- A revenue or profitability analysis.
- A consideration of the risks associated with the candidate's strategy.

Case Development

When the candidate asks about products, **show Exhibit 1.**

Then ask:

The client has shared some data for its key products. What do you make of this information?

After discussion of Exhibit 1, ask:

If the client achieved its fair share of the low income segment, how much additional revenue would it generate?

Case #8: Consumer Products Strategy (3/6)

Exhibit 1

Consumer Spend by Product Category

Product/ category	Total category sales (US\$M)	Client category sales (US\$M)	Total LI consumer spend on category (US\$M)	LI Consumer spend on client (US\$M)
Shampoo	400	100	90	30
Cold Medicine	250	50	75	7.5
Diapers	300	150	100	25
Baby food	300	100	100	30

LI: Low Income

Case #8: Consumer Products Strategy (4/6)

1. Calculate the overall share and share of low income consumers by product/category.

Product/ category	Client overall market share	Client share of low income consumers	Overall share vs low income share
Shampoo	100/400 = 25%	30/90 = 33%	Overall < LI
Cold Medicine	50/250 = 20%	7.5/75 = 10%	Overall > LI
Diapers	150/300 = 50%	25/100 = 25%	Overall > LI
Baby food	100/300 = 33%	30/100 = 30%	Overall = LI

2. Calculate incremental revenue for cold medicine and diapers
 - Cold medicine: $(20\% - 10\%) \times \$75M = \$7.5M$
 - Diapers: $(50\% - 25\%) \times \$100M = \$25M$
 - Total incremental revenue: $\$7.5M + \$25M = \$32.5M$

Calculations

After market share and revenue analysis from Exhibit 1, share that the client is not interested in the cold medicine category. However, the client has done customer research that suggests low income consumers are interested in buying diapers (**show Exhibit 2**).

Ask the candidate:

What do you see that could help us figure out why low income consumers aren't buying our client's diapers?

After Discussion:

*What else should our client think about as it develops low income strategy?
What are the risks?*

Sample Response

Product

- Reduce package size of diapers: our client's package size is significantly larger than its competitors. The client should keep the price / diaper the same; but, if the client dropped the package size from 40 pack to 20 pack, it would cut the absolute price of the box to \$10, even lower than its competitors.
- Develop discount brand to sell more affordable goods.

Customer

- Enter smaller, local shops.
- Market specifically to low income consumers.

Company

- Capitalize on existing strengths, such as baby food and shampoo.

Note: Brainstorming should be conducted by categories.

Case #8: Consumer Products Strategy (5/6)

Exhibit 2

Product Packaging and Price by Category

Product/ category	Client package size	Average package size of competitors	Client price	Average price of top 5 competitors
Shampoo	10 oz bottle	12 oz bottle	\$4	\$3
Cold Medicine	6 oz bottle	6.5 oz bottle	\$6	\$3
Diapers	40-pack	32 pack	\$20	\$16
Baby food	6 oz jar	6 oz jar	\$2	\$1.50

Case #8: Consumer Products Strategy (6/6)

Recommendation

The client should pursue a low income strategy by:

- Focusing on diapers, this could generate an additional \$25M in revenue
- Increase sales by retaining its price / diaper but reduce package size from 40 to 20 diapers per box to achieve a lower absolute price of \$10/box

Evaluation

- A strong candidate will be organized and address all 3 case questions in a structured and firm manner.
- It may be helpful to repeat the questions at the outset of the final recommendation.

Risks and Next Steps

Risks

- Brand dilution and cannibalization
- Increased packaging and distribution costs by targeting low income consumers
- Competitive response, such as a price war

Next Steps

- Study on effect of the strategy on our brand and existing customers' purchasing behavior
- Re-negotiate supplier packaging contracts to lock in lower prices and research 3rd party vendors to potentially outsource distribution cost
- Competitor analysis of categories in which client wants to play to analyze likelihood of such responses and client's ability to sustain itself with such a response

Overall	Quant	Creativity
2	2	2

Case #9: Contact Lenses

Case Type:
Profitability

McKinsey & Co – Interviewer Driven

Industry:
CPG

Concepts Tested:

- Pricing
- Product Mix
- Sales Channels

Case #9: Contact Lenses (1/9)

McKINSEY & CO – Round 1 – Interviewer Driven

Quant Level – MEDIUM

Case Type

Industry

Client Type

Profitability

Consumer Products

Contact Lens Provider

Fit Questions

1. Tell me about a time you turned around a team.
2. Tell me about a time when you did not accomplish a professional goal and what you learned from it.

Interviewer Guidance

As an interviewer-driven case, each section of this case is structured around a specific question to ask the candidate.

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

- (1) for the scope of this case, BB manufactures and distributes only in the U.S.;
- (2) demand for contact lenses has been growing steadily at about 3% annually; and
- (3) the client and its main competitor each sell about 10 Million contacts per year
- (4) the industry has high barriers to entry (since a high R&D outlay is necessary), is mature (20 years plus), and is dominated by BB and its competitor, who are equal in most areas.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your client is a well-known contact lens provider called BB. BB manufactures and distributes contact lenses in the U.S. While BB is one of the largest players in the U.S. market, and has been for quite some time, the company feels that compared to its main competitor, it is not doing as well as it could.

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

How would you go about structuring this case?

Note: If the candidate hasn't clarified the purpose of the case (i.e. what problem does BB want them to solve?), push them to do so. This case will be unsuccessful if the candidate does not key in on this early on.

Case Development

1. Framework
2. Questions and answers
3. Final recommendation and synthesis

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #9: Contact Lenses (2/9)

Framework

- Revenue
 - Price
 - Minor differences in pricing may exist, but probably nothing major.
 - Customers may be price-sensitive, but given that lenses are fitted to a person by a doctor, customers do not purchase lenses purely on price; comfort, fit, and compatibility are big issues.
 - Product Mix
 - Distribution/sales channels: competitor may be selling through more profitable channels.
(This is a key takeaway and avenue for the case.)
 - Volume
 - Substitute goods: may be substituting away from BB? Any substitutes (Lasik, glasses, etc.) will likely hit competitor equally.
 - Competitor may capture more of market because of better branding, better distribution, better price, better products? Could be possible, but not an issue at this time.
- Cost
 - Variable Costs
 - Raw Materials: inputs will be plastic, saline solution (water, salt), packaging (paper, aluminum foil, plastic). These are all commodities.
 - Labor: will be unskilled, and the wage rate probably set by minimum wage standards. Unless BB is unionized and the competitor is not, nothing here to put BB at disadvantage to competitor. Thus, this is not an issue.
 - Fixed Costs
 - Plant, Property & Equipment
 - R&D: big cost factor, but likely equal between BB and competitor.
 - Overhead (People): no major differences as companies are of similar size.
 - Marketing/Distribution: probably no differences.
 - Legal issues: possible, but BB is probably big enough that even a huge class action settlement shouldn't affect its bottom line too much.

Working hypothesis: My hypothesis is that the problem lies with our client's profitability rather than it being a result of changes in the contact lens market.

Interviewer Guidance

- A lot of people automatically assume that BB's sales aren't growing at the industry rate, or that BB isn't satisfied with its market share. If the candidate does, read back the statement of the issue in the introduction ("is not doing as well as it could") and ask him or her to explain what that could mean. If the candidate still doesn't get it, point out that the statement is very subjective (it could be interpreted to mean many different things) and by then, the candidate should specify profitability.
- This is a profitability problem, so the candidate should utilize a classic profitability framework.
- Contact lenses are commoditized, so difference in raw materials, prices, and fixed costs should be comparable across major competitors.
- The best candidates will be specific about their bullet points, giving concrete examples and eliminating certain areas based on their communicated hypotheses. Often candidates don't do this, so after the framework is laid out, push back and ask the candidate to do this.
- If the candidate drives the case with a hypothesis, allow the candidate to do so. Then, follow up with the questions on the subsequent page.

Case #9: Contact Lenses (3/9)

Question 1: Drivers

Ask the candidate:

Based on the information you've been given so far, or mentioned, and based on what you know about the contact lens industry, where would you prioritize your investigation?

- What answer the candidate ends up with does not matter, but the candidate should concretely and rationally eliminate certain options by evaluating each area on their framework.
- The easiest way to reason out possible problem areas is by thinking about current, established major contact lens players such as Bausch & Lomb and Johnson & Johnson.
- Good candidates will incorporate their own experiences with contact lenses or optical solutions. Push the candidate to think about the economics of the business and relate it to either their own experiences or to people they know who use contact lenses.

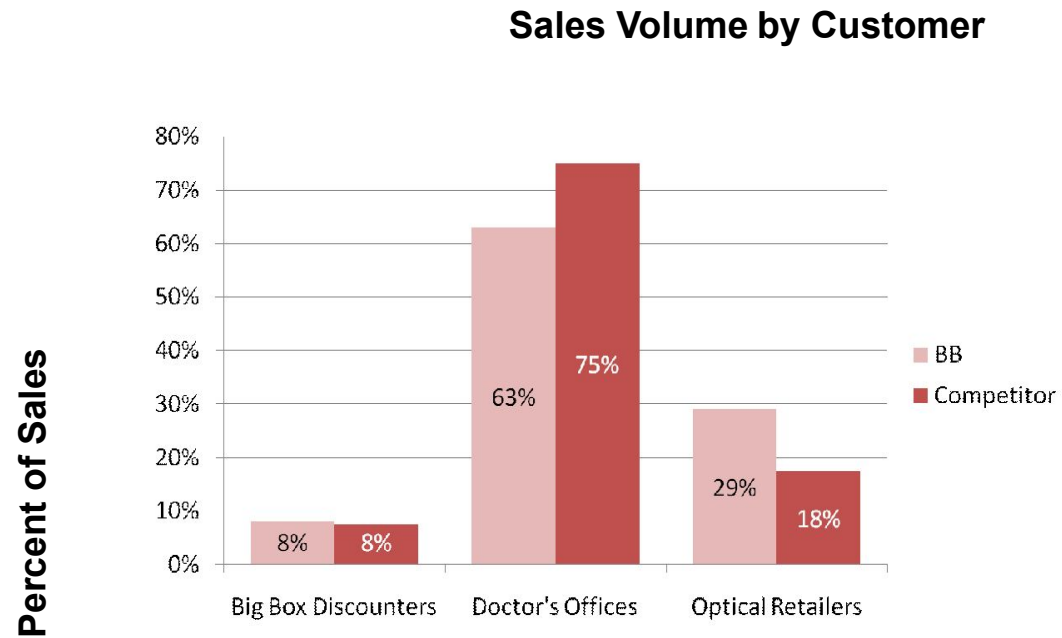
Question 2: Costs

Ask the candidate:

- *After analyzing BB's cost structure, McKinsey is confident that BB's costs are extremely competitive. Knowing this, where do you think the problem could lie?*
- The candidate should mention that the issue is on the revenue side and specifically should focus on sales.
- The candidate should have outlined the four areas that impact sales: product, price, promotion, place.
- Once the candidate comments on customer and product mix or distribution, make the following comment and **present Exhibit 1 – Customer Mix:**
- *McKinsey analyzed the distribution channels of BB and its competitor, and came up with the following information.*

Case #9: Contact Lenses (4/9)

Exhibit 1



Case #9: Contact Lenses (5/9)

Guidance for Exhibit 1

Overview:

- The Customer Mix slide is vague. The candidate should immediately walk through and clarify what is being represented. If not, highlight some key points:
 - The slide shows customer mix in terms of volume. As a reminder, the competitor and BB sell equal volume annually (around 10,000,000 lenses per year).
 - There are three main channels / customers:
 - Big Box Discounter = Walmart, Sam's Club
 - Doctor's Offices = Local, non-chain doctor's offices
 - Optical Retailer = LensCrafters, etc.

Important Takeaways:

- Competitor sells more via Doctor's Offices; BB via Optical Retailers
- Each customer has a varying degree of buying power. Walmart purchases in large volume. Doctor's offices purchase in small quantities, and they are likely not as business savvy and do not have a procurement department. LensCrafters is in the middle.
- These customers / channels differentiate themselves: Walmart is known for cheap prices while doctor's offices are specialized and offer higher levels of service. LensCrafters is in the middle.

Key Insight:

- BB and its competitor charge the same prices for the same products in each channel (as established earlier in framework). The issue is overall profitability; therefore, the issue must lie in a pricing difference between the different sales channels that makes some channels more profitable.
- If the candidate has not clearly explained their reasoning behind why the pricing is different, probe by asking, *"Does this surprise you?"* Then move to the next slide and **provide candidate with Exhibit 2 – Profitability by Customer.**

Case #9: Contact Lenses (6/9)

Exhibit 2

Profitability by Customer

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

Case #9: Contact Lenses (7/9)

Question 3: Channel Profitability

Question #3A

Ask the candidate:

Can you tell me what you see here?

- The candidate should analyze Exhibit 2 and decide to calculate profit and percent profit margin per channel.
- Candidate should reach the following conclusions:
 - Big Box Discounter: \$1.50 profit and 9% profit margin
 - Doctor's Office: \$16.00 profit and 57% profit margin
 - Optical Retailer: \$8.50 profit and 39% profit margin
- Once calculated, ask the candidate, *"what are your thoughts?"* before continuing with Question #3B.
 - The candidate should comment on how BB is behind competitors in the most profitable channel.

Question 3: Continued

Question #3B

Ask the candidate:

- *Given this information and the initial problem we're solving for, what would you want to look at?*
- The candidate should want to look at how we can sell more lenses in the doctor's office channel, possibly by shifting resources from the Big Box channel.

Question #3C

Ask the candidate:

- *With what you see here, what are some additional alternatives to further increasing profitability?*
- Since this is a channel strategy case, online direct to consumer alternatives should be mentioned; or, creating a subscription model service would potentially be a feasible alternative.
- Probe the candidate on risks for their proposed route. Some ideas include: cannibalization of existing sales, logistics impact on profitability, time to service and refill rates.
- State that the client has, *"elected to remain in existing channels and change their distribution strategy."* Have the candidate calculate current profitability.

Case #9: Contact Lenses (8/9)

Question 4: Sales Reps

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

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

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

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

Given these findings, what should BB do?

- The candidate should realize that they need to isolate the effect of making additional calls to a customer per month.

Interviewer Guidance

Provide the following information to the candidate when asked:

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

Relevant Calculations

- 8 hours a day less 3 hours a day for admin = 5 hours a day for sales calls
 - 5 hours per day divided by 0.5 hours per call = 10 calls per day
 - 10 calls per day times 20 days total = maximum capacity is 200 calls per month per rep
 - 200 calls max less 100 calls necessary = 100 "free" calls
- You can use all options to call additional customers (a) three times, or (b) two times per month:
 - Already have called all customers once, so to reach 3 calls per month, must only call customer 2 additional times. Therefore, BB could call $100/2 = 50$ customers 3 times per month.
 - Alternatively, B&B could also call $100/1 = 100$ customers 2 times per month.
- Recall effectiveness of different numbers of calls:
 - 1 call = \$100
 - 2 calls = $\$100 \times 1.05 = \105
 - 3 calls = $\$100 \times 1.15 = \115
- If all customers are called twice, then sales = 100 customers x \$105 per customer = \$10,500.
- Otherwise, sales = 50 customers x \$100 + 50 customers x \$115 = \$10,750.
- BB should call 50 customers once and 50 customers 3 times.

Case #9: Contact Lenses (9/9)

Recommendation

BB should sell more lenses in the doctor's office channel and direct its sales reps to refocus their calling efforts to doctors for the following reasons:

- BB is behind its competitor in the most profitable channel (doctor's offices)
- It can increase the efficiency and profitability of its marketing efforts by changing calling frequency
- By calling 50 customers once and 50 customers three times, BB will have a revenue of \$10,750/mo.

Risks and Next Steps

Risks

- Potential competitor response and retrenchment
- Possible customer fatigue and backlash from multiple sales calls each month

Next Steps

- Evaluation of ways to strengthen relationships further with doctor's offices to compete effectively against other competitor
- Cycle through doctor's offices getting three calls/mo. to minimize fatigue

Evaluation

Excellent candidate performance will include:

- Talking through math.
- Well-structured data.
- Discussion about potential competitor response.

Overall	Quant	Creativity
3	1	3

Case #10: Deepwater Inc.

Case Type:
Investment Decision

Undisclosed – Candidate Driven

Industry:
Energy

Concepts Tested:
• ROI Analysis

Case #10: Deepwater Inc. (1/5)

UNDISCLOSED – Round 1 – Candidate Driven

Quant Level – LIGHT

Case Type

Industry

Client Type

Investment Decision

Energy

Manufacturer

Fit Questions

1. Why did you decide to come to Booth?
2. Describe the best team you have ever had — what defined your experience?

Interviewer Guidance

This case tests the candidates ability to analyze a manufacturing process and draw conclusions about an industry with which they are not likely to be familiar. This case also tests a candidate's ability to deal with a more ambiguous solution to a case and to draw insights from discussions and brainstorm. Strong candidates will continue to ask appropriate questions to arrive at the details necessary to solve the case. The interviewer should pay close attention to the candidate's delivery as they navigate this somewhat complex case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client, Deepwater, is an oil refinery firm looking at an investment in a filtering unit to transform residual oil into useful feedstock to produce gasoline (**show Exhibit 1**). The major input is crude oil which gets refined to gasoline. Deepwater would like your help in determining whether or not they should invest in the filtering unit.

Note: At this point, prompt the candidate to walk you through the diagram. Making sure to outline all categories of products:

- Primary input - crude oil; secondary input - feedstock and fuel; byproduct - oil 6 and residual

The candidate should ask for information regarding the company's products, the market for the products, uses for waste products, and the company background. If they do not ask upfront, these questions should come out as the candidate discusses their framework.

Case Development

1. Framework
2. ROI Analysis
3. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude

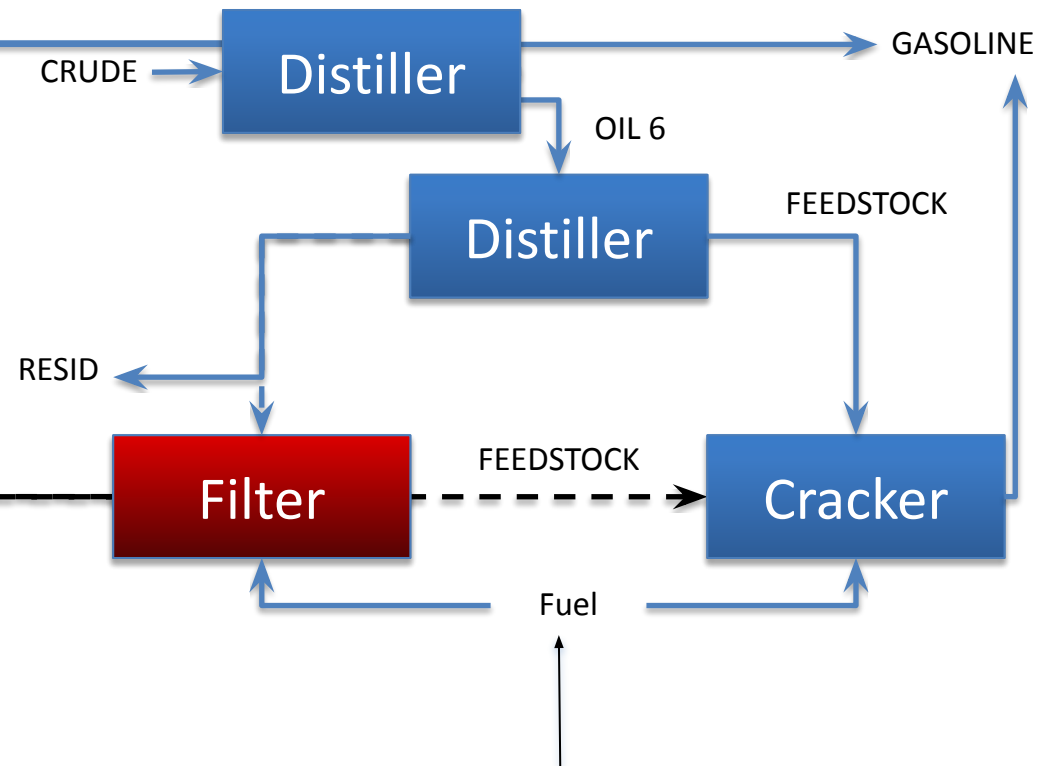


Synthesis and Recommendation



Case #10: Deepwater Inc. (2/5)

Exhibit 1 (Operations)



Case #10: Deepwater Inc. (3/5)

Additional Information

Please provide this information if/when asked:

- The usable output is gasoline.*
- Oil 6 can be converted to feedstock and then gasoline.*
- Residual is a waste product unless the filter is purchased.* Residuals are leftovers (heavy oils).
- Gasoline is sold to a competitive market and the company has no influence on the price of gasoline.
- There is enough demand for gasoline.
- Fuel can be used to fire the different units. If fuel is not available, residual is used.
- The filter transforms residual into useful cracker feedstock.
- Many of Deepwater's competitors have invested in this kind of filter unit.
- There are no significant environmental concerns with respect to the filter.
- There is no outside market for Oil 6 or feedstock.

Note*: A top candidate would recognize this on their own. If the candidate does not, make sure to clarify this.

- Make sure the candidate understands the diagram before moving forward.

Framework

A good framework will allow the candidate to test their hypothesis regarding the two alternatives: production and profitability with the filter AND production and profitability without the filter.

Working hypothesis: Deepwater should invest in the filtering unit.

Scenario A (Without Filter)

- Revenues
 - Gasoline \$/barrel
 - Residual in \$/barrel
- Costs
 - Crude \$/barrel
 - Converting Oil 6 to feedstock and then gasoline; converting fuel to gasoline

Scenario B (With Filter)

- Revenues
 - Gasoline \$/barrel
- Costs
 - Crude \$/barrel
 - Converting Oil 6 to feedstock and then gasoline; converting fuel to gasoline
 - Investment in filter
 - Opportunity cost of converting residual instead of selling in \$/barrel

Strategic Risks

- Volatility of demand/price for inputs and outputs (crude, residual, fuel and gasoline)
- Regulatory changes impacting cost of residual waste production
- Environment considerations and potential backlash

Case #10: Deepwater Inc. (4/5)

Cost-Benefit Criteria

Ask the candidate the following questions:

On the diagram, which cost comparison is most relevant?

- The candidate should see the selling cost for the residual and the cost to purchase the fuel is most relevant to determining whether to purchase the filter.

Under what scenario would you then utilize residual instead of purchasing outside fuel (i.e. use residual instead of selling it)?

- If the cost of purchasing fuel is more than the selling price for residual, the client should use residual.

Strategic Criteria

Ask the candidate:

If we sell all residual and buy fuel to make gasoline what concerns may arise?

- Changes in fuel price and availability will impact cost / benefit of selling residual vs converting to feedstock.

Note: Candidate should go through Porter's Five forces focusing on buyer and supplier power (this should be an opportunity for structuring and brainstorming). As the interviewer, drive this to be a discussion between you and the candidate, continuously asking "*what else?*" and pushing the candidate to fully analyze all potential risks.

Investment Decision

The candidate should ask for more data on the different costs and selling prices. Only give data for items that the candidate brings up.

- The client estimates an investment cost of \$40M and a 20 year useful life of the filter (assume straight line depreciation).
- The client also estimates annual operating costs of \$4M per year for the filter.
- With the filter we can make an additional 5,000 barrels/day at a contribution margin of \$4/barrel.
- The plant operates 350 days per year.

After discussing the above information, ask, "*what is the payback period?*"

Case #10: Deepwater Inc. (5/5)

Annual Profit

The candidate should do a similar analysis to the one shown here:

- Annual Contribution Margin (CM) = \$20K/day * 350 days/year = \$7M/year
- Annual Operating Profits = CM – FC = \$7M – \$4M = \$3M/year
- Payback period = investment/operating profit
 - \$40M / \$3M per yr. = ~13 years
- Payback period is approximately 13 years, which is enough to cover for additional depreciation.
- Annual profit after depreciation is \$1M.

Recommendation

It is profitable for the client to invest in this filtering unit

- Payback period is 13 years
- Annual profit after depreciation is \$1M

Risks and Next Steps

Risks

- Volatility in the market of residual and gasoline
- Changing environmental concerns about the technology
 - Taxes on gasoline might increase, the firm may come under increased scrutiny from environmentalists, etc.
- Lost relationships with customers that purchased cheap residual

Next steps

- Assess volatility in the markets in both the short and long term to determine any impact on the investment decision
- Perform sensitivity analysis under different tax scenarios and technology implementations to evaluate profitability
- Identify new customers for gasoline or additional byproducts

Overall	Quant	Creativity
2	1	2

Case #11: Electric Utility

Case Type:
Profitability

McKinsey & Co. – Interviewer Driven

Industry:
Energy

Concepts Tested:
• Brainstorming

Case #11: Electric Utility (1/5)

McKINSEY & CO – Round 2 – Interviewer Driven

Quant Level – LIGHT

Case Type

Industry

Client Type

Profitability

Energy

Utility Company

Fit Questions

1. Tell me about a time when you had to convince leadership of your idea. What challenges did you face and how did you react?
2. Tell me about a time when you had to work under tight timelines. How did you approach this situation?

Interviewer Guidance

This is a Round 2 case and involves a lot of qualitative discussion with the candidate. It is important that the candidate takes time to structure their thoughts every time a question is asked during this case. You should be prepared to push the interviewee beyond the initial set of responses by asking “what else?”

Also, the candidate should take some time to summarize the issue and use an appropriate framework (profitability framework) to respond best to the qualitative discussions. Have the candidate go through their framework initially before asking further questions.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

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

- There are several ways to produce electricity: water, coal-fired plants, nuclear, wind, etc.
- Electricity can be supplied to a wholesaler or to consumers directly.
- Electricity transmission is highly regulated because the wires used to transport electricity are mostly government controlled. However, electricity usage is mostly deregulated (i.e. the government does not set the price, it is set by competitive forces).

Our client has 10 plants that produce electricity using coal. The client obtains coal partly from its own coal mines and partly from 3rd-party providers. Of late, the client has seen the profitability of its coal generated electricity decline.

What could be causing this?

Case Development

1. Framework
2. Q & A and discussion
3. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation

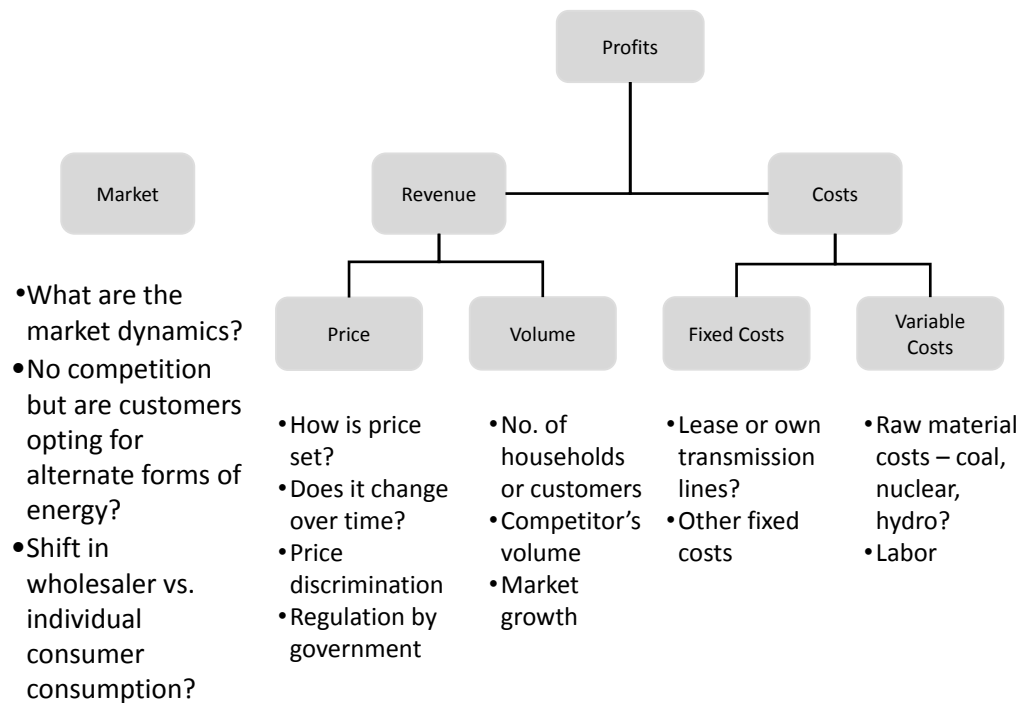


Case #11: Electric Utility (2/5)

Framework

Below is a potential framework that the candidates should use for profitability.

Working hypothesis: Increasing costs are causing the decline in profitability since there are no real opportunities on the revenue side.



Framework Discussion

As the candidate goes through various parts of the framework, share the information below. As the interviewer, you should wait for the candidate to ask for this, but eventually share the information even if the candidate does not explicitly ask.

Price

- This is a deregulated industry; price is set by competitive forces.
- There is one price set per the entire year.
- As a simplification, assume the same price is charged to all customers.

Volume

- GPE supplies electricity to over 1 M customers (a customer is a household or business) in deregulated markets through wholesalers.
- Volume is generated by demand. The market is fragmented.
- The market is growing at about 3% per annum.

Insight #1

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

Fixed Cost

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

Variable Cost

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

Insight #2

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

Case #11: Electric Utility (3/5)

Question 1

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

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

What potential issues may lie in each of the above?

Interviewer Guidance

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

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

- Push the candidate to bring specific elements to the discussion.

Potential Response

1. Acquiring the coal:

- The coal may have to be transported across some distance. This could be done through rail or road. There are potential savings here in optimizing the transport channel.
- The coal is received from several sources: GPE's own coal mines and 3rd-party mines. The quality of coal (its energy content) is likely to be different in different mines. Hence, processing different types of coal probably takes different processes and machines. This diversity could be a potential cost generator and this could be handled by sourcing for more similar coal varieties.
- The coal mines could be in a geographically separate region, subjecting GPE's coal supply to other regions' risks (for e.g., climatic factors such as hurricanes, political turmoil, etc.)
- The coal mines are probably unionized, and that may add to volatility in our coal supply.

2. Generating the electricity:

- The electricity generators may be old and not functioning efficiently, inducing waste in the system.
- There are 10 different plants in the client's company. Differences in operations of these plants may induce volatility in the system.
- The availability of labor may have changed by the arrival of other industries or competitors nearby.
- Given that GPE generates electricity through coal, some new environmental laws may have come into force increasing the cost of electricity generation.

3. Transmitting the electricity:

- Transmission could be streamlined by finding more customers closer to the electricity plants themselves.
- GPE could look into a bandwidth sharing contract so that their lease may be cheaper.
- GPE can look into checking the transmission lines for repairs, etc. that may be required so that there is less electricity loss in transmission.
- Provider applying peak-hour surcharges to regulate customer usage

Case #11: Electric Utility (4/5)

Question 2

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

Potential Response

Candidate's response should include a qualitative assessment of the cost-benefit analysis for the two scenarios:

- 1) Use the coal from their mine to generate electricity and sell the coal from their mine for profit.
- 2) Buy coal from other coal mines.

Note:

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

Interviewer Guidance

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

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

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

If candidates say this, remind them that:

- Yes, GPE is getting coal cheaper from their coal mines. But they can also sell the same coal to other customers and make the same profit.

What is the advantage of using their own mined coal for their electricity generation operation?

Case #11: Electric Utility (5/5)

Question 3

On an average, GPE operates at 80% utilization. GPE's CEO saw this statistic and asked McKinsey if they should look into increasing this from 80% to 90%.

Given that the industry average is to operate at 77% utilization, how would you approach this problem?

Discussion for Question 3

Tell the candidate that the *"demand for electricity is cyclical"*. Ask the candidate, *what might that imply?*

- Candidates should point out that it means there are peaks and troughs in electricity demand (e.g. air conditioners working over time during summer).

As an electricity company, GPE is committed to meet the peak demand and so, it is normal to operate at less than 100% utilization. GPE is already operating at close to the industry average and it may be unrealistic to expect the utilization to increase to 90%.

Recommendation

The key reason for profitability decline is an increase in cost:

- Acquisition costs of coal are higher potentially because of transportation, 3rd party coal mines, unionized labor, etc.
- Cost of electricity generation is potentially high because of old equipment, operational inefficiencies, etc.
- High costs of electricity transmission
- GPE should continue the use of its coal mine
- It should also ignore the pressure to increase the utilization to 90%

Risks and Next Steps

Risks

- Client is unable to negotiate better contracts with 3rd party coal mines / labor unions and is unable to obtain sharing contracts reducing the cost of electricity transmission
- Continued increases in costs along all parts of the value chain

Next Steps

- Identify the top 5 cost savings opportunities, especially regarding electricity generation activities, for client to internally reduce production costs
- Build an implementation plan to ensure prioritization of cost reducing steps along the value chain

Overall	Quant	Creativity
2	2	1

Case #12: Elena's Electronics

Case Type:
Profitability

Undisclosed – Candidate Driven

Industry:
Consumer Electronics

Concepts Tested:

- Quantitative analysis

Case #12: Elena's Electronics (1/6)

UNDISCLOSED – Round 1 – Candidate Driven

Fit Questions

1. Tell me something interesting about you that is not on your resume.
2. What would you bring to the Firm?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is Elena's Electronics, an electronic goods chain store. Historically, the client relied on rapid opening of new stores to increase growth. However, the client's presence is now so broad that it must also look for internal growth. In 2017, Elena's Electronics tested a pilot that changed the responsibilities of staff in its cell phone division.

In the old model, all employees were expected to handle all tasks related to sales and products. Under the new program, there are two different types of employees: sales specialists and product specialists. Sales specialists handle all customer interactions, such as talking to customers about their needs and recommending products. Product specialists handle all product management functions, including inventory, ordering, and shelf management.

The purpose of the pilot was to see whether sales specialists could target customer needs better and thus increase profits from phone sales. Our client wants us to assess whether or not the program was successful and whether it should expand the pilot program to all the divisions of the stores.

Interviewer Guidance

A strong candidate may ask about criteria for success. Instruct the candidate that *"profitability is very important, but they want us to take a broad look at whether the pilot was successful"*.

Quant Level - HEAVY

Case Type	Industry	Client Type
Profitability	Consumer Electronics	Electronic Goods Chain Store

Case Development

1. Framework
2. Analysis of store revenues

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #12: Elena's Electronics (2/6)

Framework

Working hypothesis: Elena's Electronics should expand the pilot program to increase profitability across all of its divisions.

- Was the pilot program successful?
 - Profitability
 - Revenue
 - Cost
 - Other metrics
 - Brand
 - Competitive positioning
 - Customer experience
- Would the pilot program be repeatable?
 - Similarity of cell phone division to other divisions
 - Customer base consistency across departments
 - Workforce readiness for the transition

Interviewer Guidance

Strong candidates should focus on profitability, but they should not forget to look into other success metrics such as:

- Morale/motivation of the sales team
- Customer experience
- Competitor response
- Brand development

Case Development

The focus of this case is on profitability, so the candidate should start there after explaining their framework. If the candidate asks about qualitative factors, share the following information:

Other Divisions: The other primary divisions at Elena's Electronics are televisions, laptops, smart appliances, and new tech (drones, 3D headsets, etc.). Their sales were unaffected by the pilot for the cell phone division.

Competitors: The primary competitors to Elena's are big box electronics stores, such as Best Buy. These stores have a wide variety of staffing models – there is no clear industry standard.

Case #12: Elena's Electronics (3/6)

Economics

When the candidate mentions that they would like to explore revenue, say, *"I have some financial statements with me. Which number you would like to start with?"*

Show Exhibit 1, but make sure to cover up Exhibit 2 first.

Exhibit 1: Solution

The candidate should calculate revenue per store and phones sold per store. If the candidate is stuck, prompt with *"How much did the average revenue per store change as a result of the pilot program? How about the number of phones sold per store?"*

	2016	2017
Number of stores	120	160
Total phone revenue	\$36 M	\$44 M
Total phones sold	54,000	104,000
Revenue/store	\$300 K	\$275 K
Phones sold/store	450	650

The candidate should identify that while phones sold per store are up, store revenues are down. A strong candidate will conclude that this is likely due to the product mix sold as a result of the program.

When the candidate asks if there is additional information that could help explain changes in product mix, **reveal Exhibit 2.**

Case #12: Elena's Electronics (4/6)

Exhibit 1

	2016	2017
Number of stores	120	160
Total phone revenue	\$36 M	\$44 M
Total phones sold	54,000	104,000

Exhibit 2

Product	Selling Price	Elena's COGS	Quantity Sold (2016)	Quantity Sold (2017)
Deluxe	\$1,000	\$700	24,000	16,000
Midrange	\$500	\$400	18,000	24,000
Budget	\$250	\$200	12,000	64,000

Case #12: Elena's Electronics (5/6)

Exhibit 2: Solution

Candidates should solve for the quantities sold in different product lines. Candidates should also solve for per-store profit.

Option 1:

Product	Quantity per store (2016)	Quantity per store (2017)
Deluxe	$24,000/120 = 200$	$16,000/160 = 100$
Midrange	$18,000/120 = 150$	$24,000/160 = 150$
Budget	$12,000/120 = 100$	$64,000/160 = 400$

Option 2:

Product	Profit Margin	Total profit (2016)	Total Profit (2017)
Deluxe	\$300	$\$300 * 24,000 = \7.2 M	$\$300 * 16,000 = \4.8 M
Midrange	\$100	$\$100 * 18,000 = \1.8 M	$\$100 * 24,000 = \2.4 M
Budget	\$50	$\$50 * 12,000 = \0.6 M	$\$50 * 64,000 = \3.2 M
Total		\$9.6 M	\$10.4 M
Total per store		$\$9.6 \text{ M}/120 = \80 K	$\$10.4 \text{ M}/160 = \65 K

Product	Profit Margin	Per store profit (2016)	Per store profit (2017)
Deluxe	\$300	$200 * \$300 = \60 K	$100 * \$300 = \30 K
Midrange	\$100	$150 * \$100 = \15 K	$150 * \$100 = \15 K
Budget	\$50	$100 * \$50 = \5 K	$400 * \$50 = \20 K
Total per store		\$80 K	\$65 K

Exhibit 2: Analysis

There has been a shift to selling more budget phones and fewer deluxe phones. As a result, profit per store has decreased, despite an increase in the overall quantity of phones sold. The candidate should suggest that this is likely due to the new program.

After the candidate identifies that total profit per store has decreased as a result of the program, ask them to brainstorm reasons for why this might be happening. If the candidate asks about the sales compensation program under the new specialist model respond that *"compensation is based on the quantity of phones sold."*

A strong candidate will synthesize that sales of the budget phones are increasing because sales specialists are recommending the budget phones to the consumers. This may be occurring because the budget phone is easy to sell due to its simple function and low price.

Case #12: Elena's Electronics (6/6)

Recommendation

- The pilot program caused a decrease in phone revenue and profit per store, so the pilot should not be expanded to additional divisions
 - The per-store profitability for phones decreased from \$80 K to \$65 K
 - Elena's experienced a 4x increase in the number of budget phones sold, but a 50% decrease in the number of deluxe phones sold.
 - Sales specialists are compensated in a way that motivates them to sell lower margin products

Risks

- The program may have brought about some benefits, and changing it could reverse those benefits:
 - Morale/effectiveness of sales specialists from new compensation structure
 - Customer experience
 - Cross-selling in other divisions

Next Steps

- Redesign the program:
 - Better train sales specialists, bring incentives to focus on more profitable phones, and involve sales specialists in the review of their compensation package
 - Study customer journey
 - Examine revenue and profit differences that could be traced back to this program

Overall	Quant	Creativity
3	3	3

Case #13: Finance Co

Case Type:
Growth Strategy

Bain & Company – Candidate Driven

Industry:
Financial Services

Concepts Tested:

- Chart clearing
- Math structuring

Case #13: Finance Co (1/6)

BAIN & COMPANY – Round 1 – Candidate-led

Quant Level – HEAVY

Case Type

Industry

Client Type

Growth Strategy

Financial Services

Asset Management

Fit Questions

- What are your career goals over the next 5-10 years and how does consulting fit into that?
- What do you typically do when you move onto a new project?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Interviewer Guidance

This is a market entry case, but the main question to be answered is: Which market has the best growth perspectives: IRA or Defined Contribution plans?

Additional Information (only share if asked by interviewee):

- Over the life of a U.S. worker, they generally build up assets in DC plans.
- During job change or retirement, most workers will 'roll' (transfer) DC assets into an IRA.
- Transfer may only occur from DC to IRA, not vice versa.
- At retirement, people will begin to withdraw their balance over time.

Pay attention to the interviewee's structure/organization during the quantitative section of the case.

Case Prompt

Our client, Finance Co, is an international asset manager who concentrates on retirement account administration. They are considering entering the US retirement market. Finance Co cannot decide whether to target the Defined Contribution (DC) market (e.g. 401k) or the Individual Retirement Account (IRA) market.

- Each market contains ~\$3 trillion in investable assets and generates about the same amount of margin per dollar of investable assets.
- U.S. workers and their employers typically make investments in DC plans while working.
- Upon job change or retirement, workers have the option of taking distributions, which remain tax deferred if rolled into an IRA.

What is the growth outlook for each of these markets over the next 5 years? Which market is more attractive for Finance Co?

Case Development

- Framework discussion
- Market Potential
- Revenue analysis
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude

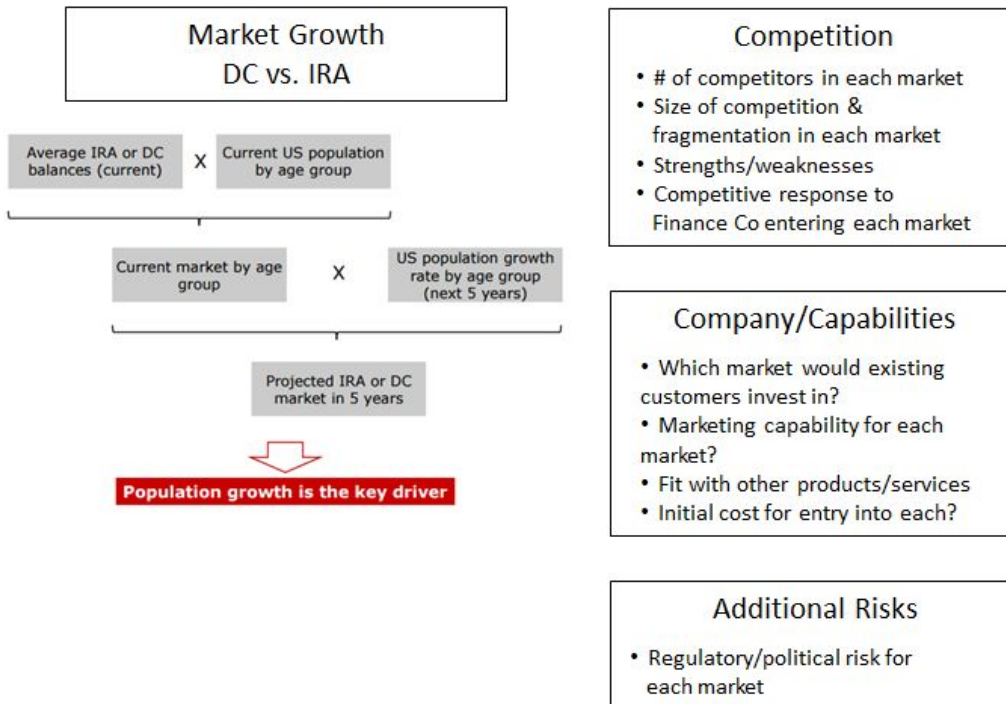


Synthesis and Recommendation



Case #13: Finance Co (2/6)

Framework



Transition statement: Since population is the key growth driver for the IRA or DC market, I would like to begin by determining how the current US population is changing over the next 5 years, specifically by age group.

Interviewer Guidance

- After discussing the framework, the interviewee should be able to identify that population is a key driver for estimating growth of both markets. **Show only Exhibit 1, cover Exhibits 2-3.**

Exhibit 1

- If necessary, push candidate to discuss which segments of the population look interesting and which segments of the population will grow vs. shrink over the next 5 years.
- Candidate should ask for DC and IRA balances to determine total market size. **Uncover Exhibits 2-3.**

Exhibit 2&3

- If necessary, push candidate to discuss main differences between DC and IRA balances.
 - Higher DC balances earlier in life are due to DC contributions tied to employment.
 - Higher IRA balances later in life are due to ability to 'roll' DC contributions upon job change and/or retirement, and workers are no longer able to make DC contributions in retirement.
- If necessary, push candidate to draw conclusions from previous analysis on population trends and identify that the IRA market looks more interesting (considering aging of population). If candidate doesn't come to this hypothesis, ask them what are the population trends.
- Candidate should request information about future performance. **Show Exhibit 4, cover Exhibit 5.**

Case #13: Finance Co (3/6)

Math Analysis (for interviewer)

IRA MARKET					
AGE GROUP	CURRENT US POPULATION (M)	CURRENT AVERAGE IRA BALANCE PER PERSON (\$K)	IRA BALANCE TODAY (\$B)	PROJECTED GROWTH RATE NEXT 5 YEARS	PROJECTED IRA BALANCE IN 5 YEARS (\$B)
<35	140	0.4	56	5%	59
35-44	45	4	180	-5%	171
45-54	40	7.5	300	5%	315
55-64	30	28	840	20%	1008
65-74	20	51	1020	15%	1173
75+	20	30	600	5%	630
			2.996T		3.36T

DC MARKET					
AGE GROUP	CURRENT US POPULATION (M)	CURRENT AVERAGE DC BALANCE PER PERSON (\$K)	DC BALANCE TODAY (\$B)	PROJECTED GROWTH RATE NEXT 5 YEARS	PROJECTED DC BALANCE IN 5 YEARS (\$B)
<35	140	1.5	210	5%	221
35-44	45	18	810	-5%	770
45-54	40	27	1080	5%	1134
55-64	30	23	690	20%	828
65-74	20	10.5	210	15%	242
75+	20	0	0	5%	0
			3.0T		3.19T

Interviewer Guidance

Exhibit 4

Ask candidate:

Calculate the total value of the DC and IRA market today and in the next five years.

- A good candidate should only need to confirm initial hypothesis that IRA is more interesting and then use the provided exhibits for the math exercise.

Exhibit 5: (Optional, complete if time permits)

After discussing Exhibit 4, ask candidate the below question, then **uncover Exhibit 5**.

Based on the information in Exhibit 5, you can see the rollover of DC distributions into IRAs have been identified as a key factor in IRA market growth. Assuming all else remains equal, let's say the IRA market was projected to grow to \$3.1T next year. What DC rollover rate would result in growth in IRA's to \$3.05T versus \$3.1T?

Answer: 50% rollover rate is needed

- Currently, a 75% rollover rate is resulting in \$150B contribution to IRA growth (75% of \$200B). To reduce IRA growth by \$50B to \$100B, rollover rate must be reduced by 1/3 to 50% (50% of 200B is \$100B).

Synthesis

- After analysis of Exhibit 5 is completed, ask for the candidate's recommendation. **Tell interviewee that Exhibit 5 was an independent exercise and not necessary for the recommendation.**

Case #13: Finance Co (4/6)

Exhibit 1

Current US population by age group

US population

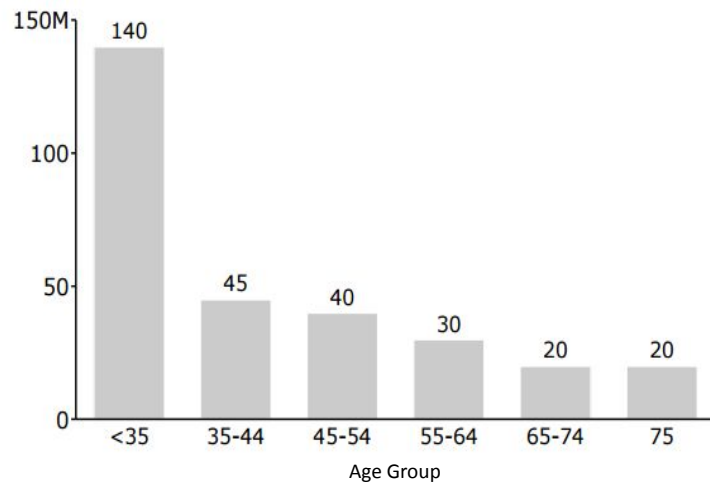


Exhibit 2

DC balances by age group

Average DC balance by age cohort

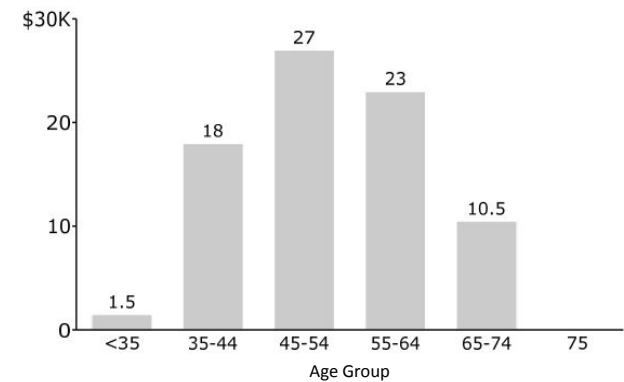
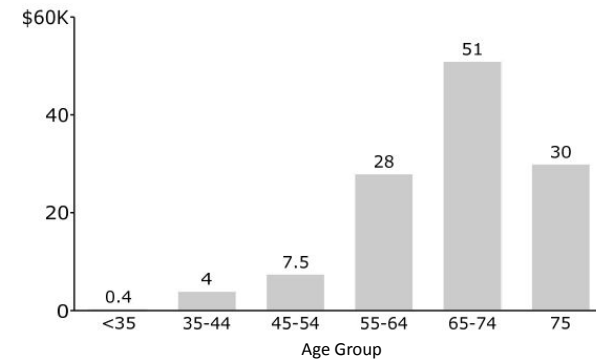


Exhibit 3

IRA balances by age group

Average IRA balance by age cohort



Case #13: Finance Co (5/6)

Exhibit 4

Projected population growth rates by age group

Projected US Population Growth
Next 5 years

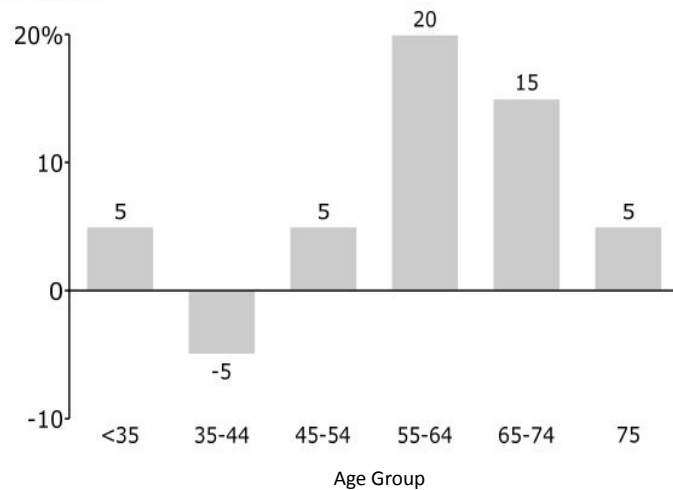
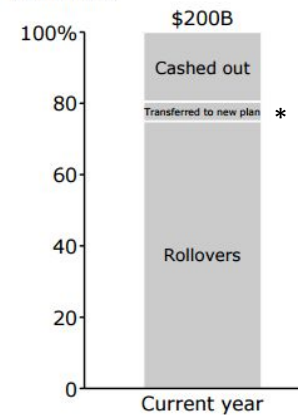


Exhibit 5 (Optional, if time permits)

Cash flows by market

DC DISBURSEMENTS

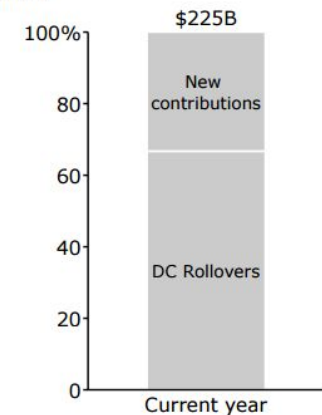
DC lump-sum distributions
by destination



*Transferred to new plan

IRA INFLOWS

IRA fund
inflows



Case #13: Finance Co (6/6)

Evaluation

Finance Co should enter the IRA market due to a greater 5 year growth outlook

- Predicted \$3.36T in the IRA market versus \$3.19T in the DC market
- The aging population trend further confirms that the IRA is more favorable

Recommendation

- Based on the market growth outlook calculation, Finance Co should enter the IRA market over the DC market. A strong candidate response will provide a clear recommendation backed by data with a mention of key risks and next steps to moving forward.
- A strong candidate will also recognize that there are several additional analyses that are essential to a strong, well-rounded recommendation.
- The candidate should reference their framework when determining additional analysis.

Risks and Next Steps

Risks

- Lack of analysis on Finance Co's ability to capture market share
- Adverse regulatory and/or political environment
- Financial position of Finance Co

Next Steps

- Need to determine:
 - Competitive environment of each market
 - Competitive response to Finance Co entering each market
 - Finance Co's marketing and sales capabilities
- Consider:
 - Lobbying
 - Analysis of future changes
- Analyze company capabilities and fit of IRA market with Finance Co's existing products / services

Overall	Quant	Creativity
2	1	2

Case #14: French Beauty Co

Case Type:
Operating Model

Accenture – Candidate Driven

Industry:
Retail & Apparel

Concepts Tested:
• Brainstorming

Case #14: French Beauty Co (1/5)

ACCENTURE – Round 1 – Candidate Led

Fit Questions

1. Tell me about the largest impact you've ever had on a team.
2. How would you handle being on a project in X industry, outside of your expertise? Would you be excited for this work?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

A large French beauty products company with a revenue of \$2B operates as manufacturer, seller and marketer of luxury fragrances. This company sells to high-end beauty retailers. Recently, the company has acquired a player in the 'accessible' beauty products industry.

The acquired company manufactures, sells and markets skincare and cosmetics. Being that the two companies operate similarly along their value chains, the COO has opted to combine manufacturing, but initially keep the two sales units operating separately because the luxury sales unit and the accessible sales unit don't have the same customers. However, the COO is interested in understanding if additional value can be realized by integrating the two sales organizations.

Your goal is to help the COO determine if a leveraged or a decentralized sales organization is a valuable strategy for the company.

Interviewer Guidance

This case includes multiple brainstorming exercises and is light on math.

Additional Information (only share if asked by interviewee):

- There is an impending recession.
- This is a maturing industry in developed markets, but emerging markets are seeing explosive growth.
- A leveraged organization is the same as a centralized organization.

Quant Level – LIGHT

Case Type	Industry	Client Type
Operating Model	Retail & Apparel	Beauty Products Company

Case Development

1. Background Discussion
2. Initial brainstorming
3. Additional revenue analysis
4. Recommendation/Wrap-up

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #14: French Beauty Co (2/5)

Framework

Revenue Increase

- Volume increase (New channels, increased capacity, sales efficiency, bulk savings opportunities)
- Price Increase (more informed pricing decisions)

Cost Savings

- Supply chain/ staffing synergies
- Improved contracts with suppliers (bulk buying)
- Reduced SG&A footprint

Fit

- Leadership and Organizational change
- cultural change
- dilution of luxury brand

Operations

- Procedural changes
- Time/cost of integration

Brainstorm

Transition statement: To determine which sales organization structure is best, I would like to focus on sales generation in a leveraged versus a decentralized sales organization.

Once the candidate explains their framework, ask, “*what are the advantages and disadvantages of each operating model?*”

- Push the candidate to consider several of the options listed to the right, ensuring they list both advantages and disadvantages for each sales organization structure.

Brainstorming Insights

	Leveraged (Centralized)	Decentralized
(+)	<ul style="list-style-type: none"> • Reduce redundancies • Streamline best practices • Human capital synergies • Reduce costs • Centralized control and accountability • Brand synchronization 	<ul style="list-style-type: none"> • Flatter org structure could encourage fast acting • Familiarity with status quo roles • Broad knowledge
(-)	<ul style="list-style-type: none"> • Employees will be unfamiliar with the new standard operating procedures • Leadership changes may disrupt familiar culture • Bureaucracy stifles decision making 	<ul style="list-style-type: none"> • Lack of accountability could lead to a hold-up problem • Increased costs • No common goal • No brand synchronization - could lead to customer confusion

Case #14: French Beauty Co (3/5)

Question 1

Once complete with brainstorming, tell the candidate:

The CEO has stopped by to let us know that the company's Board has met and is upset about their profitability. They have indicated that a 5% generation of added value above their current \$2B needs to be achieved by this year.

- **Show the candidate Exhibits 1 & 2**, and walk the candidate through the following three questions:

Question 1:

Based on the two provided exhibits, what are some ways to achieve the added value goal?

- Push the candidate to initially focus on revenues and not costs.
- Candidate should identify that Walmart generates a significant amount of revenue through the sale of fragrances (more than any of French Beauty Co's current fragrance retailers) – a channel that our salesforce has not tapped into currently.
 - If asked, interviewer can provide additional information on the fact that our client, being a major sales and marketing force in the industry, can easily pivot to manufacture perfume for the “accessible” customer by tapping its talented workforce.

Questions 2 & 3

Question 2:

How much revenue could be gained by selling fragrances at Walmart, and would it be enough to satisfy the Board's goals?

- When the candidate asks about the possible market capture and / or manufacturer margins, let them know that a market analysis performed by Accenture showed that 25% of the revenue could be captured by our client.
- Have the candidate perform the following calculations to determine if that would be enough to satisfy the Board's goal.

$\$400\text{M in Revenue} * 25\% = \$100\text{M potential revenue}$

$\$100\text{M}/\$2\text{B} = 5\%$

Selling fragrances at Walmart would achieve the Board's goal.

Question 3:

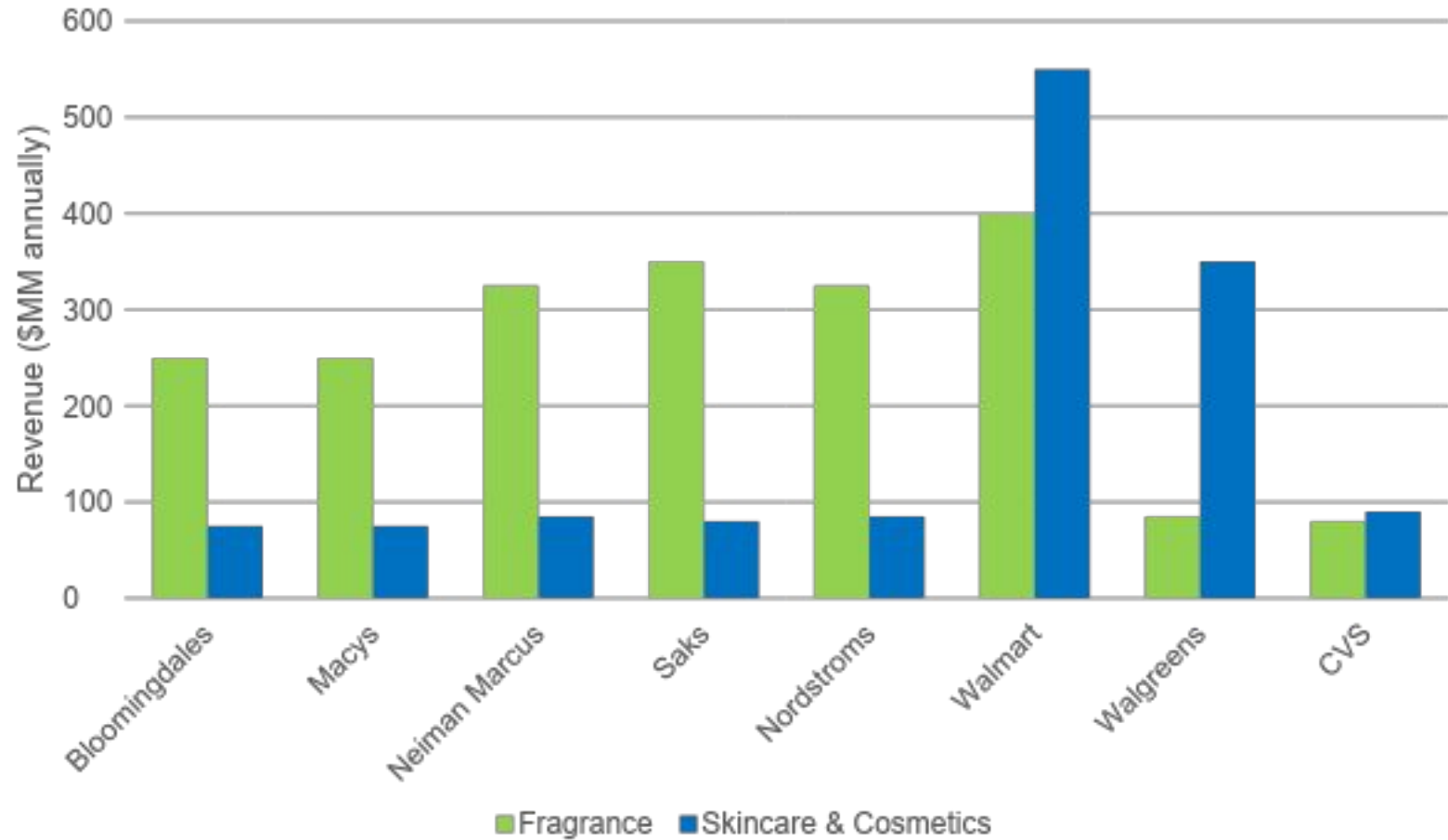
How else could the COO drive the required 5% value add?

- Have the candidate brainstorm potential answers, which include:
 - Reduce costs
 - Look into emerging market growth
 - Improve advertising
 - Identify new retailers / customers
 - Addition new product lines

Case #14: French Beauty Co (4/5)

Exhibits

Retailer's Revenue by Product Line



	French Beauty Co Sales Unit	Acquired Company Sales Unit
Primary retail outlets sold to:	Macys, Bloomingdale, Saks, Nordstrom Neiman Marcus	Walgreens, Walmart, CVS
Product Sold:	Fragrances	Skincare and cosmetics

Case #14: French Beauty Co (5/5)

Recommendation

French Beauty Co should shift to a leveraged (centralized) sales organization

- This would allow the company to manufacture and effectively sell “accessible” perfume to Walmart
- This will result in the projected 5% revenue gain that will appease the goal set by the Board

Additional Benefits that may be mentioned:

- Use of existing customer relationships to sell “accessible” perfume in new channels will be valuable
- Encourages education, knowledge sharing and shadowing amongst the reps in each sales organization
- Creates a unifying culture and vision for the company
- The accessible perfume market will be key in an economic downturn

Risks and Next Steps

Risks

- Challenges in combining different cultures; unfamiliarity with new standard operating procedures
- Leadership changes may disrupt familiar culture; bureaucracy stifles decision-making
- Ability to obtain shelf space for fragrances at Walmart

Next Steps

- Identify similarities and differences between the two firms; develop strategic plan to bring them together
- Craft message from leadership and develop internal feedback system to maintain pulse on employees’ satisfaction and ability to be successful at work
- Leverage existing relationships at Walmart to design strategic market entry plan

Evaluation

- Assessment is based on qualitative brainstorming and quantitative approach during analysis section.
- Exemplary candidates are able to:
 - Support their brainstorming with evidence and / or examples.
 - Go back to the framework for additional ideas; often is a valuable tool to generate deeper insights.
 - Demonstrate strong analytical abilities in the value generation calculations.
 - Summarize the discussion and create a strong and clear final recommendation.

Overall	Quant	Creativity
2	2	1

Case #15: German Telecom

Case Type:
Profitability

BCG– Candidate Driven

Industry:
Telecommunications

Concepts Tested:

- Breakeven analysis
- Bidding strategy

Case #15: German Telecom (1/5)

BCG – Round 1 – Candidate Driven

Fit Questions

1. Tell me about a time you've faced a challenge as part of a team.
2. Tell me about a time when you led a team to elevate its performance to a new level.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large German telecom company. It is considering making a bid in an auction for one of 5 licenses to operate a new generation of mobile phone networks (4G) in the United Kingdom.

It has engaged BCG to help with the issue and determine the appropriate strategy for the auction.

Interviewer Guidance

This case assesses critical thinking and analytical problem solving while evaluating the profitability of a specific action for the client. It is a great case for testing a candidate's ability to ask the right questions to obtain the correct information and drive the problem forward. It is heavily candidate-driven.

Provide the case prompt below and then provide additional information (on the following page) only as the candidate asks for it. You should allow the candidate to drive the interaction.

Quant Level – MEDIUM

Case Type	Industry	Client Type
Profitability	Telecommunications	Telecom Company

Case Development

1. Background Discussion
2. Initial brainstorming
3. Additional revenue analysis
4. Recommendation/Wrap-up

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #15: German Telecom (2/5)

Interviewer Guidance

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

- The auction will be a sealed bid auction with all bids received simultaneously. Since it is a sealed bid auction, our client will not know the true bidding strategies of its competitors with any certainty.
- The licenses will go to the highest 5 bidders. Each bidder can attain only one license. The licenses will be valid for 5 years.
- The British government intends for the auction to open the mobile phone market to competition to help control consumer prices. As a result, one license has been reserved for a new entrant, but the other four are open to both new entrants as well as established competitors.
- The auction is the first of its kind for 4G networks in Europe.

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

- The most important characteristics are the high data speeds and increased capacity for service that it offers.
- It will enable data speeds of up to 5x greater than the most advanced 3G networks available today.
- Additional 4G spectrum enables incumbent wireless companies to build out their capacity in order to support more customers and to enable high-bandwidth services in an environment that is increasingly capacity-constrained.
- Following the introduction of 4G technology, old technology networks will be phased out by the government over the span of 3 years.

Note: The candidate should, at this time, draw out a framework. Below is more information the candidate may ask for; provide this only if the candidate asks.

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

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

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

- It is unclear how many competitive bids will be received or who will bid.
- Four major operators exist in the current UK market, and they roughly split the market equally.
- They already have established networks as well as retail outlets that can be leveraged for the introduction of 4G technology.

Additional Information (3/5)

Interviewer Guidance

The Market

- Approximately 30 million people have a mobile phone in the UK.
- Converting to the new network will require the purchase of a 4G network-enabled device.

Volume

- Some potential for growth beyond current market due to new services.
- Must consider that conversion of customers will be critical and that client is at a disadvantage compared to established competitors.
- A likely outcome is that our client will receive less than 1/5 of the total customers due to new entrant status.

Price

- Customers pay £30 per month for their current mobile phone plans, cost is expected to be higher for 4G.
- Could charge additional fees for additional services and allow customer to pick and choose what they want.
- Could charge more for a fixed plan with all services included; however, there will also be increased competition in the market.
- Candidate should consider both the factors that will increase the price (new services) and decrease the price (increased competition).

Fixed Cost

- Significant upfront cost for our client as they must set up the network and retail chains.
- Upfront costs not as significant for established competitors (a key disadvantage for our client).
- Once network is established, fixed costs consist of:
 - Network operation
 - Maintenance
 - Retail operations, etc.

Variable Cost

- Minor once network is established (i.e. one extra customer costs little).

Framework

UK Market Potential

- Size of market and projected growth
- Expected market share
- Adoption rates of 4G from 3G
- Expected lifespan of 4G
- **Profitability**
 - Revenue: # customers x price
 - Customer willingness to pay
 - Potential additional services
 - Costs
 - Fixed Costs
 - Upfront costs (initial network build)
 - Ongoing costs (operations, maintenance, retail)
 - Variable Costs
 - Customer acquisition cost
 - Cost per customer to operate

German Telecom Capabilities

- Ability to market to customers in UK
- Existing technology and expertise to install and execute? Need to hire?
- Competitive advantage over others
- Status of brand, customer service reputation
- Financial situation (have cash or ability to acquire)

Competitive Environment

- Less important since industry is a licensing model and number of competitors is known
- Competitive advantage of each

Working hypothesis: The client should bid for the license as long as profitability can be established, in PV terms, for the life of the license. I would first like to calculate this and then establish the bid price.

Interviewer Guidance

The candidate should utilize industry specific terminology and examples as they walk through the framework.

There are two parts to this case. First, the candidate must assess if the market is attractive for our client by assessing the total profitability over the 5 years life of the license. Once complete, the candidate should determine an appropriate bid price.

Do not provide the candidate with all of the information on the right. Rather, push them to make assumptions about each factor and work with them to uncover the information. Actual numbers for the calculation are provided on the next page.

Case #15: German Telecom (4/5)

Assessing Profitability

The candidate should be driving to calculate the annual revenues and costs in order to calculate the profitability and present value of the future cash flows for the next 5 years (life of the license).

At this point, instruct the candidate not to worry about discounting future cash flows (or tell them that the discount rate is 0%).

Note: Some candidates may come up with their own assumptions (e.g., retention rate of customers, adoption rates, market growth each year, etc.). Feel free to allow for more difficult calculations depending on the candidate's level of case practice. The solution below is simply illustrative.

Data to Provide

If the candidate is struggling to come up with values for price, volume, fixed cost, and variable cost, provide the following guidance:

Price

- Average price per customer is likely to increase to £50 due to new service adoption among key customer segments.

Volume

- Assume an increase of 33% in customers (to 40M) overall.
- Assume the client will receive 1/8 of market annually (5M total).

Fixed Costs

- £740M to build network.
- £50M to run network annually.

Variable Costs

- £50M to run network annually.

Calculations

Our client's bid is based on an assessment of profitability:

- The bid could be as high as the total value of the cash flows from the license (break-even).
- The candidate should consider if the bid should be lower to realize some profits from the venture.
- As a result, the bid will be **no higher than £13.76B**.

Revenues	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	TOTAL
Price/Customer	£600 (£50x12)	£600 (£50x12)	£600 (£50x12)	£600 (£50x12)	£600 (£50x12)	
# of Customers	5M	5M	5M	5M	5M	
Revenues	£3B	£3B	£3B	£3B	£3B	£15B
Costs	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	TOTAL
Build Network	£740M	£0	£0	£0	£0	£740M
Run Network	£50M	£50M	£50M	£50M	£50M	£250M
Variable Costs:	£50M	£50M	£50M	£50M	£50M	£250M
Total Costs						£1.24B
Total Profit						£13.76B

Recommendation (5/5)

Recommendation

German Telecom should bid for the 4G mobile network in the United Kingdom

- Bid price can be up to £13.76B based on projected profits and break-even analysis
- Our assumption is based on an expected market share of 1/8 due to fierce competition, especially with several companies already established in the UK.

Evaluation

A good candidate response will provide a clear recommendation backed by the data with a mention of key risks to moving forward.

A strong candidate will also recognize that the 4 UK-established competitors are willing to pay far more as their fixed costs will likely be significantly lower. This would imply that it is unlikely that our client would be willing to outbid the established competitors as a result. Instead the client's real competition comes from other new entrants for the license reserved for them.

Risks and Next Steps

Risks

- Competition from foreign telecom companies; inability to capture 1/8 market share
- Unable to charge estimated average price of £50, which leads to lower revenues
- Government issuance of additional licenses or withdrawal of existing licenses

Next Steps

- Appraisal of foreign competitor landscape and likelihood of other new entrants into UK market
 - Market analysis to calculate feasibility of capturing intended market share
- Pricing analysis to determine customers' actual willingness to pay for higher speed service
- Develop contingency plans to deal with new regulations should they arise

Overall	Quant	Creativity
3	3	1

Case #16: Green Co

Case Type:

Investment Decision

Deloitte – Interviewer Driven

Industry:

Retail and Leisure

Concepts Tested:

- NPV
- ESG
- Implementation

Case #16: Green Co (1/6)

DELOITTE – Round 1 – Interviewer Driven

Quant Level – HEAVY

Case Type

Industry

Client Type

Investment Decision

Retail & Leisure

Apparel

Fit Questions

1. Tell me about yourself.
2. Tell me about a time you had unclear instructions for a task and how you approached this task.


Interviewer Guidance

This case is interviewer driven, uses a non-traditional format (it has no framework), and includes NPV calculation. It is a great case for an interviewee who is in the mid-to-late stage of casing and who desires a very quantitative case.

There are several questions which will be outlined in this case. You should provide the case prompt and then show the candidate Exhibit 1: Data Sheet for the candidate's reference throughout the case. Before asking question 1A, allow the interviewee to review the data sheet.

The BAU scenario is one in which the company implements no carbon emission reductions.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance 

Case Prompt

Our client, Green Co, is a \$10B global manufacturer and retailer of high-end outdoor apparel, with several well-known brands. The company has big growth aspirations. Through organic and inorganic growth, Green Co is hoping to grow from \$10B in revenue in FY21 to \$15B by FY25.

At the same time, the CEO has recognized their customers' and investors' interest in being an environmentally sustainable company and has asked their Director of Sustainability to develop goals for absolute reduction in carbon emissions despite the growth they have planned (as compared to a "Business As Usual" (BAU) scenario). The CEO expects this to support the company's overall sustainability vision, help ensure protection of their brands' value, and bolster the company's market capitalization.

Case Development

1. Case Prompt and Data Sheet Review
2. Questions 1-4
3. Brainstorming
4. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #16: Green Co (2/6)

Exhibit 1: Data Sheet

Table 1 – Company FY21 Data

Metric	FY21	
Company Revenue	\$10 billion	
Locations	Offices:	20
	Retail:	600
	<u>Manuf. & Dist.:</u>	<u>50</u>
	Total:	670
Energy Consumption (millions kWh)	Offices:	0.5
	Retail:	4.0
	<u>Manuf. & Dist.:</u>	<u>2.0</u>
	Total:	6.5
Energy Spend	\$65 million	
Carbon Emissions	300,000 metric tons of CO ₂ -e**	

Table 2 – FY25 Growth Goal

Metric	FY25 (Goal)	
Company Revenue	\$15 billion	
Locations	Offices:	28
	Retail:	900
	<u>Manuf. & Dist.:</u>	<u>60</u>
	Total:	988

NPV Calculation

$$NPV(i) = \sum_{t=1}^N \frac{R_t}{(1+i)^t}$$

** CO₂-e is the unit measurement for carbon emissions; one can assume that carbon emissions are directly correlated to energy consumption

** Assume discount rate of 10%

Table 3 - Potential Energy Efficiency

Project Groupings	Energy Efficiency Project(s)	CapEx	Annual Savings	CO ₂ -e Reductions	Lifetime
Grouping 1 – Offices	Lighting & HVAC Retrofits at all Offices	\$4,000,000	\$1,600,000	140,000 metric tons	5 Years
Grouping 2 – Manufacturing & Distribution	Solar Installations & other controls	\$41,500,000	\$4,400,000	140,000 metric tons	Perpetuity

Case #16: Green Co (3/6)

Question 1: Spend & Emissions

Question #1A

After allowing the candidate to review Exhibit 1, ask:

Without putting a carbon reduction goals in place, how much money would you project the company to spend on energy in FY25?

- You may remind the interviewee that they have some FY25 data.
- A candidate may wish to assume some increase in energy prices, which is perfectly acceptable. Allow them to assume no price change.

Question #1B

Ask the following:

How much will the company emit in FY25?

- Push the candidate to calculate the exact number and not round.

Interviewer Guidance

Metric	FY21		FY25 Forecast	
Locations	Offices:	20	Offices:	28
	Retail:	600	Retail:	900
	<u>Manuf. & Dist.:</u>	<u>50</u>	<u>Manuf. & Dist.:</u>	<u>60</u>
	Total:	670	Total:	988
Energy Consumption (millions kWh)	Offices:	0.5	Offices:	0.7
	Retail:	4.0	Retail:	6.0
	<u>Manuf. & Dist.:</u>	<u>2.0</u>	<u>Manuf. & Dist.:</u>	<u>2.4</u>
	Total:	6.5	Total:	9.1
Energy Spend	\$65 million		\$91 million	
Carbon Emissions	300,000 metric tons of CO ₂ -e		420,000 metric tons of CO₂-e	

Questions #1A and #1B

Candidate should do the following:

- Recognize that the ratio of # Offices and other Locations can be applied for energy consumption.
 - Offices: 40% increase, 0.5m kWh increases to 0.7m kWh
 - Retail: 50% increase, 4.0m kWh increases to 6.0m kWh
 - Manuf/Dist: 20% increase, 2.0m kWh increases to 2.4m kWh
 - Total energy increases to 9.1m kWh.
- Recognize that if 6.5 million kWh cost \$65 million in FY21 that results in a cost of \$10 per million kWh. If energy costs stay the same (assume it does), the FY25 energy consumption will translate to \$91 million in energy spend.
- Ratio of FY21 emissions to FY21 energy consumption can be used to estimate FY25 emissions based on FY25 consumption. Answer is 420,000 metric tons.

$$\frac{6.5\text{m kWh}}{300,000\text{ metric tons}} = \frac{9.1\text{m kWh}}{\text{x metric tons}}$$

Case #16: Green Co (4/6)

Question 2: NPV

Question #2

Ask the following:

What is the NPV of the two potential project groupings that the company is considering implementing? Assume benefits and costs are immediately realized in FY21.

- Ask the candidate for the approach that they would take and write out the formula. Do not ask them to do the NPV calculation, it will take too long for the allotted time. Once they write the formula, provide the information that the PV (cost savings) is \$6.7M.
- Discount rate is 10% (also on the data sheet).
- Investment and payback both happen in FY21.

Interviewer Guidance

Question #2

Candidate should calculate the NPV of each of the two scenarios. Given the NPV (and other considerations), the candidate should make a recommendation on which grouping the Director of Sustainability should implement.

Grouping 1:

$$\text{NPV} = \text{PV}(\text{savings}) - \text{upfront costs} = \$1.6\text{M} + \frac{\$1.6\text{M}}{(1+0.1)^1} + \frac{\$1.6\text{M}}{(1+0.1)^2} + \frac{\$1.6\text{M}}{(1+0.1)^3} + \frac{\$1.6\text{M}}{(1+0.1)^4} - \$4.0\text{M}$$

- Once they have the concept and formula correct, provide the information that the PV of the cash flows from cost savings is \$6.7 M.

Candidate can then subtract the upfront costs to get NPV: \$6.7 M - \$4 M = \$2.7M

Grouping 2:

Using the perpetuity formula, $\frac{C}{i}$,

$$\text{NPV} = \text{PV}(\text{savings}) - \text{upfront costs} = \frac{\$4.4\text{M}}{0.1} - \$41.5\text{M} = \$2.5\text{M}$$

Based on this, Grouping 1 has the best NPV.

Note:

A good candidate may also ask about upfront capital constraints. Given unlimited capital, a candidate could argue that the company should implement both options since they are all positive NPV.

Candidates should also consider the lifetime of these investments; different companies may want payback within a shorter time horizon even though the project will last in perpetuity.

Case #16: Green Co (5/6)

Question 3: Emission Reduction

Question #3A

Ask the following:

- *Relative to the BAU scenario, what are the potential energy cost savings if the company chose to adopt a goal of:*
 - a) *0% absolute increase in emissions from FY21 to FY25 or,*
 - b) *5% decrease in emissions from FY21 to FY25?*

Question #3B

- *Which of the two project groupings should Green Co pursue to achieve a goal of 5% decrease in emissions?*
- The BAU (Business as Usual) scenario, as mentioned in the prompt, is one in which the company implements no carbon emission reductions.

Interviewer Guidance

Questions #3A and #3B

- Since emissions are directly correlated to energy consumption (as noted in the data tables) and the cost of energy stays constant:
 - A 0% increase in absolute emissions would equate to a 0% change in energy consumption. Energy spend would stay at \$65 million, resulting in a **savings of \$26 million** (\$91 million - \$65 million).
 - A 5% reduction in emissions, following the same logic, would equate to a 5% reduction in energy consumption (and thus spend). Spend would be reduced by 5% to \$61.75 million (\$65M * 95%) and thus the savings from the Business as Usual number is **\$29.25 million** (\$91 million - \$61.75 million).
- Being methodical will be critical to this question; there are several variables that must be addressed in logical order:
 - BAU carbon emissions are forecasted to be 420,000 MT CO₂-e .
 - A 5% reduction target would require a 135,000 MT reduction (420,000 MT – 285,000 MT), which **could be accomplished by both project groupings** (140,000 MT each).
- Since both Grouping 1 and 2 offer the same carbon emissions savings potential, the **candidate should choose the one with the better NPV, which is Grouping 1.**
- In addition to getting the NPV calculation right and getting to a recommended goal, a great answer would include:
 - Balancing NPV with the non-financial benefits (i.e., carbon emissions) to ensure the goal makes sense from a financial and non-financial (e.g., stakeholder expectations) perspective.
 - Benchmarking these goals against those of their peers and competitors in the marketplace to understand whether these goals will help meet stakeholder expectations.

Case #16: Green Co (6/6)

Question #4

- *What other factors should the company consider when setting goals and planning for the implementation?*

Key points may include:

- Additional financial considerations
 - Length of availability of tax credits & incentives
 - Availability of capital (Grouping 2 requires a very large upfront investment)
- Organizational
 - Internal appetite for adoption of these goals
 - External stakeholder expectations
 - Management commitment
 - Alignment with CEO's vision
- Operational
 - Creation of an implementation roadmap
 - Measurement & verification of results (i.e. cost savings, carbon emissions reductions)

Brainstorm

Green Co should implement the Grouping 1 energy efficiency project

- This project has a positive NPV of \$2.7M vs Grouping 2's \$2.5M
- It meets the company's sustainable vision for the future by reducing carbon emissions by 5%

Risks and Next Steps

Risks

- Does Green Co have the financial means to implement?
- Does client have capability to implement project
- Forecasts and constant price of energy may be inaccurate

Next Steps

- Determine Green Co's financial position to implement
- Examine movement in energy prices
- Analyze company's ability to implement and impact on wider company operations

Overall	Quant	Creativity
2	2	1

Case #17: GreenShield Health Insurance

Case Type:

Market Entry/Sizing

Strategy& – Interviewer Driven

Industry:

Financial Services & Insurance

Concepts Tested:

- Market Sizing
- Breakeven Analysis
- Channel Selection

Case #17: GreenShield Health Insurance (1/6)

STRATEGY& - Round 1 – Interviewer Led

Quant Level - MEDIUM

Case Type

Industry

Client Type

Market Entry /
Market Sizing

Financial Services
and Insurance

Healthcare Insurer

Fit Questions

- Describe a time when you led a team through a significant change or introduced a new idea during a project.
- Tell me about a time when you failed.

Interviewer Guidance

This is a 3 part case that tests several different skills:

- PART 1: MARKET ATTRACTIVENESS (15 min)**
 - Testing: Market Sizing, Breakeven Analysis, other factors
- PART 2: CHANNEL SELECTION (15 min)**
 - Testing: Grasp of channel economics of client acquisition model, other channel factors
- PART 3: PROPOSED RECOMMENDATION (5 min)**
 - Testing: Ability to synthesize conclusions from large amounts of data, identify risks, and respond to challenges

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your client is GreenShield Health Insurance, or GHI. They are a health insurance company that wants to expand into Florida. GHI wants your help creating a business plan for this venture to see if it makes sense to enter this market.

- Before allowing the candidate time to write out a framework, have a discussion about the important facets of a business plan and what one would need to believe to enter this market.
- The candidate would ideally touch upon market attractiveness, customer identification, and distribution channels. For the next portion of the case, guide the candidate through each of the dimensions and allow them to come up with a separate mini-framework for each.

Case Development

- Framework
- Q&A Discussion
- Final Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #17: GreenShield Health Insurance (2/6)

Framework

- Health Insurance Market
 - Size
 - # insured by employer
 - # insured by other means v. uninsured
 - Customer Segments
 - Insured v. uninsured
 - Ability to afford insurance
 - Satisfaction with current plan
 - Competition
 - Other health insurance companies
 - State-run health exchange
 - Channels
 - Direct (mail, calls, agents) v. indirect (internet, billboard)
 - Growth Rate
- Profitability
 - Revenue
 - Price per policy
 - Volume-# potential policies issued
 - Costs
 - Fixed costs-initial investment
 - Variable costs-per policy issued (admin, etc.), salesforce, marketing
- Company (GHI)
 - Fit with current portfolio of customers (by state)
 - FL insurance regulation concerns
 - Changes to existing insurance laws (e.g. ACA)

Interviewer Guidance

- The candidate should walk the interviewer through their framework. The interviewer should ask further questions of the candidate, if necessary, to drive a discussion around market potential for the client.
 - If the candidate does not fully flush out their thoughts on the size and segments associated with the market, probe the candidate further by asking, *do you think that every person who could individually get health insurance (>18 yrs. old) in FL has health insurance?*
 - If the candidate still struggles to identify different customer segments for the market, prompt them by saying, *what are some reasons that a person may not have insurance?*

Case #17: GreenShield Health Insurance (3/6)

Part 1: Market Attractiveness

1. Ask the candidate how they would estimate market size (e.g. what data would be necessary, how they would use that data, etc.).
 - After this discussion, **show Exhibit 1 (cover Exhibit 2)** and ask the candidate to react. No calculations are necessary, but the candidate should have already cited several of the factors in the exhibit during the discussion.
2. Ask the candidate to determine the breakeven criteria and formula, given the following information (**show Exhibit 2**):
 - Investment Required \$2,000,000
 - Revenue per policy = \$500
 - Medical Cost per policy = \$350
 - Admin Cost per policy = \$100
 - The candidate should easily calculate the contribution margin per policy (\$50). As a result, 40,000 policies need to be sold to cover the 2M investment. Assume all costs and revenues are over the lifetime of the customer.
3. Next, using Exhibits 1 and 2, ask the candidate to calculate the share of the current market the firm would need to capture to breakeven:
 - $(40,000 \text{ policies}) / (4,800,000) = 0.8\%$
 - Note: Use number of insured, not target market. The candidate should identify that this is a realistic market share target.

Part 2: Channel Selection

1. The candidate should begin with a brief discussion of their framework for addressing the issue of channel selection (having been previously completed). Below are relevant questions that the candidate should ask to arrive at an appropriate solution.
2. How is insurance sold?
 - Discuss direct (calling customers, direct mail, agents) and indirect models (internet, billboard).
3. Where do the sales come from?
 - Discuss leads. Specifically, the candidate should identify that direct models will likely generate far higher leads than indirect models, but are probably also more costly.
 - After the candidate identifies channel differences in lead generation, **show Exhibit 3** and allow them to react. A strong candidate may dive into calculating the most attractive sales channels.
4. Ask the candidate to explain differences between yield percentages and look for a coherent response (e.g. secondary and tertiary insights are given, a relationship to self and knowledge of how effective each channel is personally may be explained, etc.).
5. Ask the candidate to identify the most attractive sales channel and which resulting model is best (e.g. direct v. indirect).
 - The profit calculation for each channel is as follows:
 $\text{Total Revenue} - \text{Total Cost} = ((\# \text{ of leads}) * (\% \text{ yield}) * (\text{revenue per sale})) - ((\# \text{ of leads}) * (\text{cost per lead}))$

Result:
Internet - \$75K
Direct Mail - \$100K
Call Center - \$200K
Billboard - \$0
Agent - \$1,950K
 - The candidate should identify that direct sales models are best and that using agents, call centers, and direct mail are the best channels for selling insurance.

Case #17: GreenShield Health Insurance (4/6)

Exhibit 1: Market Sizing

Market Estimation

Florida population	17,000,000
Over 18 yrs. old	12,000,000
Not covered by employer, %	50%
Not covered by employer, amt	6,000,000
Currently Insured, %	80%
Currently Insured, amt	4,800,000
Uninsured, %	20%
Uninsured, amt	1,200,000
Uninsured, can afford	30%
Uninsured, can afford	360,000
Insured but unhappy	30%
Unhappy, amt	1,440,000
Total Target Audience	1,800,000

Exhibit 2: Breakeven Analysis

Breakeven Analysis

Upfront Investment	\$ 2,000,000
Revenue Per Policy	\$ 500
Medical Cost Per Policy	\$ 350
Administrative Cost Per Policy	\$ 100

Case #17: GreenShield Health Insurance (5/6)

Exhibit 3: Channel Selection

Lead Generation by Channel

	Internet	Direct Mail	Call Center	Billboard	Agents
Cost Per Lead	25	15	30	10	30
Number of Leads	1,000	20,000	10,000	500	10,000
Yield	10%	2%	5%	1%	30%
Revenue Per Sale	1000	1000	1000	1000	750

Case #17: GreenShield Health Insurance (6/6)

Part 3: Recommendation

- The client company should enter the Florida insurance market
 - Based on the upfront investment necessary, the client only needs to capture 0.8% of the insured market to breakeven
 - The direct channels are the most profitable and, as such, the client company should leverage these starting with agents first

Risks and Next Steps

Risks

- The Florida market may look attractive now, but we do not have any information on market trends
- We do not know about our client's existing direct sales capabilities (e.g., do they already employ agents and have expertise in this area?)
- We are not sure if the direct channels will best address the market segments the client hopes to target in Florida

Next Steps

- Conduct further market research to best understand trends in the FL health insurance market over time
- Create plan for build out of client salesforce (agents) and training specific to the FL health insurance market
- Determine how the client's target customer responds to marketing by sales channel to refine lead generation model

Overall	Quant	Creativity
2	2	2

Case #18: Hawaiian Smoothies

Case Type:
Market Entry

BCG – Candidate Driven

Industry:
Retail & Apparel

Concepts Tested:

- Math structuring
- Breakeven analysis
- Brainstorming

Case #18: Hawaiian Smoothies (1/5)

BCG – Round 2 – Candidate Led

Quant Level - MEDIUM

Case Type

Industry

Client Type

Market Entry

Restaurants, Food &
Beverage

Investor

Fit Questions

1. Tell me about a time you struggled as a leader. If you could redo everything, what would you change?
2. Tell me about a time you persuaded someone who initially disagreed with you. What was the disagreement, what did you do, and what was the result?

Interviewer Guidance

This is a breakeven problem. The candidate should draw out a framework and explore the major business aspects of opening the smoothie store. This case is candidate-led, so push the candidate to drive the case. Only provide information when it is specifically requested.

If asked about timing, respond, *“Jim plans to open the store as soon as he finds a co-investor”*.

If asked about payback period or Dan’s investment objectives, respond, *“Dan would only invest if the payback period is within two years. He’s also interested in the longer-term prospects and growth potential of selling smoothies”*.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

It is the year 1990. Your client, Dan, was approached by an entrepreneur, Jim, who wanted to discuss the possibility of Dan investing in one of his ideas. Jim has a history of successfully launching new business ideas, but Dan is not sure whether to invest.

The idea Jim is proposing is to open a new “smoothie” shop, a type of drink he saw when he was recently in Hawaii. He thinks that smoothies could be a big business and he wants to get the first store opened up soon so that he can start rolling out franchises if they are successful. Jim has asked Dan to invest \$30,000 in the concept, for which he will get a 50% ownership stake in the business. As a result of his 50% ownership stake, he will receive 50% of the profit or loss generated by the business.

Dan wants to know what you think he should consider when deciding whether to invest.

Case Development

1. Framework
2. Analysis of OpEx
3. Analysis of Revenues
4. Calculation of BEP and profits
5. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #18: Hawaiian Smoothies (2/5)

Framework

Working hypothesis: Dan should invest in the new smoothie store because customers are becoming more health-conscious.

- Breakeven in 2 years?
- Revenues
 - Volume of smoothie sales
 - Price of smoothies
 - Product mix & other sales
- Costs
 - Fixed
 - Real estate & store footprint
 - Equipment for food prep
 - Advertising & marketing
 - Variable
 - Raw materials: fruit, add-ins
 - Store Employees
- Positive market response?
 - Smoothie Market
 - Demand from consumers
 - Growth potential & franchising
 - Consumer tastes/preferences
 - Competition
 - New smoothie competitors
 - Response from existing food & beverage stores

Interviewer Guidance

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should clearly demonstrate how the questions they're asking are directed at answering the specific question of whether Dan should invest in the smoothie store.
 - It's less important for the hypothesis to be backed up with evidence, since it's so early in the case (though strong candidates will draw on their own knowledge and intuitions to develop preliminary insights about the potential for this new smoothie store).
- Is breakeven the primary consideration? Are external factors considered?
 - Breakeven is the deciding factor for Dan. It's OK for candidates to discuss other considerations, but their primary focus should be on profitability.
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of the smoothie market, rather than just generic ideas about new market entry.

Case Development

- This case is deliberately open-ended – after the framework, the candidate can start by analyzing either revenue or costs. After analyzing both, the candidate should evaluate the profits and breakeven potential (i.e., whether or not the initial investment can be recovered, and how long it will take if so).

Case #18: Hawaiian Smoothies (3/5)

Costs: Fixed & Variable

FC

- Real Estate – the store will be located in a suburban strip mall.
 - Rent will cost \$7,200/month.
 - The candidate should convert to day rates (\$240/day).
- Equipment – juicers, cash registers, freezers, refrigerators.
 - Equipment will cost \$20,000 at the outset, and it will have to be repaid at the end of the first year.
- Advertising and marketing – print ads, mailers, radio spots, promotions.
 - Advertising and marketing will cost \$10,800/year.
 - The candidate should convert to price/day (\$30/day).

VC

- Employees – two employees, likely high-school or college age kids making the minimum wage in 1990.
 - Employees will cost \$6/hr. each.
- Raw materials – fruits, milk, juices, add-ins.
 - Raw materials will cost of \$1.50 per smoothie.

Revenues

- Store hours: 11am – 9pm
- Open days: 360 days per year (30 days per month)
- Price: \$5 per smoothie, only one size
- Sales: 15 smoothies per hour, on average

Computations:

- Smoothies sold per day: 15 smoothies/hour * 10 hours = 150 smoothies/day
- Employee cost per day: 10 hours * 2 employees * \$6/hr. = \$120/day
- Total cost to run the store per day: \$240 rent + \$120 employees + \$30 advertising = \$390 per day
- Profit margin per smoothie: \$5 - \$1.50 = \$3.50 (excl. investment)
- Profit per day: (\$3.50 profit margin * 150 smoothies) – \$390 = \$135 profit/day (excl. investment)
- Total yearly profits: \$135 * 360 days = \$48,600 (excl. investment)

Interviewer Guidance

- **Do not provide information** if the candidate simply asks, “Do we have any information on the expected revenues/costs/profits?”. Push the candidate to think deeper and identify the major business drivers behind revenues and costs. Respond, “What do you think the major revenues/costs would be?”
- Strong candidates will proactively describe item in-depth (e.g. rather than just saying “equipment” as a cost, they will describe the types of equipment), make inferences about figures, and evaluate the reasonability of figures provided to them.
- If the candidate is missing information when calculating breakeven, ask them whether they might be missing anything.

Case #18: Hawaiian Smoothies (4/5)

Math Extension: Optional

For an optional math extension, ask, *“The store is not entirely sure that it will be able to sell 15 smoothies per hour. What is the minimum number of smoothies the store must sell to breakeven on a daily basis?”*

- Total cost to run the store per day: \$390
- Total profit margin per smoothie: \$3.50
- Total number of smoothies needed to breakeven per day: $\$390 / \$3.50 = \sim 111$ or ~ 11 per hour
- Strong candidates will recognize that 11 is a reasonable amount as that is about one every 5-6 minutes.

Brainstorm

After the candidate has completed the breakeven analysis, ask, *“What are some other ways the store could increase revenue?”*

The candidate should structure their response:

Internal Strategies

- Open for additional hours and serve “breakfast” smoothies
- Sell food items or other beverages
- Add premium drinks with “boosters”
- Sell athletic supplements
- Rise prices

External Strategies

- Enter into partnerships with local gyms
- Franchise the stores

Once the candidate has completed the brainstorming, ask for the final recommendation for Dan.

Key Insights

- The candidate should remember that at the end of the first year, Jim and Dan will have to repay the \$20,000 in equipment costs. This means that first year profits will only be \$28,600.
- Candidate should recognize that Dan will receive 50% of the returns from the store: \$14,300 in the first year and \$24,300 per year, starting in the second year, and continuing every year after that. Therefore, Dan will recover his investment during the second year.

Case #18: Hawaiian Smoothies (5/5)

Recommendation

- Dan should invest in Hawaiian Smoothies
 - Dan should recover his \$30k investment during the first half of the second year
 - Dan should earn \$24,300 annually on an on-going basis from the investment
 - The store only requires ~11 smoothies/day for breakeven on daily expenses, but we expect to sell 15 smoothies/day

Risks

- Bad economy or faulty assumptions could adversely affect estimates and revenues could be lower than projected
- Food and beverage competitors could introduce smoothies, since it's a simple product to make, cutting into Jim's profits

Next Steps

- Examine other ways to increase revenues, such as:
 - Open for breakfast and serve breakfast smoothies
 - Attract health-conscientious and potentially higher margin customers by serving athletic supplement-boosted and/or healthy smoothies
 - Increase size offerings – small, medium, large etc.
- Examine possible competitive response and gain first mover advantage

Overall	Quant	Creativity
1	1	2

Case #19: Heavy Attrition

Case Type:
Organizational Change

Z.S. Associates – Candidate Driven

Industry:
Healthcare

Concepts Tested:

- Churn/Attrition
- Sale Channels

Case #19: Heavy Attrition (1/4)

Z.S. ASSOCIATES – Round 2 – Candidate Led

Quant level- LIGHT

Case Type

Industry

Client Type

Organizational
Change

Healthcare

Medical Device
Company

Fit Questions

- Describe your leadership style and give me an example of a time when you demonstrated it.
- Tell me why you are specifically interested in our Firm and the city / office for which you are applying.

Interviewer Guidance

This is an open-ended case that focuses on brainstorming and forming a hypothesis. It is indicative of the type of case typically provided by partners and could even be performed without pen and paper if asked to do so.

An excellent candidate should be able to quickly distinguish what factors are key to focus on (i.e., those in the framework) based on the background information provided, and should also be able to provide a clear structure to an otherwise ambiguous case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client has asked us to look into why there is such heavy attrition amongst the junior salespeople in the organization. *Where do you think we should start?*

Let the candidate drive the case. The candidate should ask clarifying questions around the qualitative “heavy attrition” verbiage.

When asked, reveal the following:

- The average time a newly hired salesperson stays in the organization is less than one year. This is worrisome because it takes about 6 months for a new salesperson to learn how to do their job well and get up to speed.
- On the other hand, experienced salespersons (people who have been with the organization greater than 3 years) have almost no attrition.
- The organization is a fairly new medical devices company that has been operating for 10 years.

Case Development

- Framework
- Discussion/ Q&A
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #19: Heavy Attrition (2/4)

Framework

Increase retention through an improved incentive scheme

Attrition not caused by poor performance

- % of company driven leaves (layoffs)
- Satisfaction with work environment among employees
- Is avg. attrition in the market lower?
- Any competitor or new market player hiring sales people?
- Industry exams needed after 1y?

Work conditions similar across all employees

- Working conditions of people working less than and over 3 years
- Working hours
- Type of work
- Location
- Insurance
- Maternity / paternity leaves, additional benefits
- Expense coverage

Are there differences in incentive schemes?

- Base and variable salary differences (sales people)
 - Commission by sales volume; distance traveled
- How does split compare to competition?
- Financial vs non-financial incentives

Working hypothesis: The heavy attrition is due to the incentive structure of the client. I would like to begin by examining differences in the incentive structure for junior and senior employees.

Interviewer Guidance

- The ideal candidate should be quick to hypothesize that there seems to be an incentive problem. As a result, while the framework may have a bucket addressing additional factors (i.e. industry regulations or exams, barriers from pre-existing relationships, etc.) it should primarily examine different types of incentives and how these compare between new and experienced sales representatives.
- Incentives could include the type of work, compensation, perks, etc.; however, since the primary work of sales people is to sell, we can assume that the nature of work is similar between both types of salespeople. Thus, we focus on the monetary aspects of the incentive structure.
- Sales people are typically paid a small fixed salary and a commission which is based off the sales they accomplish. Thus, commission for a sales person is a function of:
 - Volume sold (type of clients, type of product sold)
 - Distance traveled for each sale
- For the remainder of the case, the candidate should look to investigate how and why the commission varies between the junior and senior sales people with regards to each of the above factors.

Case #19: Heavy Attrition (3/4)

Brainstorm

Ask the candidate: “Assuming there are no significant differences between the tasks of junior and senior sales people, what do you believe would be the main factors determining incentives obtained?” A good candidate should present at least 3 headlines (buckets) to create an efficient incentive scheme. The following three headlines are examples. Sub-topics should be discussed in detail. If the candidate does not do this, follow-up by asking what the most important issues to analyze first are – a good candidate will do this without additional questions needed.

Type of product sold

- Margins of each product?
- Effort to sell?
- Can junior sales people sell every product?

Type of client in the territory

- Incentive adjustment according to territory potential?
- How territories are assigned?
- Best clients / territories assigned to senior people?

Distance to customer location

- Incentives adjusted to distance to customer?
- What is the average distance for each client on customer portfolios?

Interviewer Guidance

The candidate should show an understanding that it is important if the company sells multiple products of differing commissions and price ranges and if the junior salespeople do not have access to the entire range of products.

- For example: Apple iPods priced in the \$100-300 range practically sell themselves, i.e. they require little effort on the part of the salesperson. iMacs, on the other hand, are priced in the \$2000-3000 range and require a greater effort to sell.

The candidate should investigate whether the incentives are aligned with the effort required to make a sale, such as having a higher commission for an iMac than an iPod in the example above.

If the commissions are structured as above, the candidate should investigate whether junior salespeople are allowed to sell higher margin, higher commission products or whether they are forced to sell only the lower-priced end of the product line. Improper incentives could lead to lower morale among junior sales people and motivate them to leave quickly.

Typically sales people are assigned territories so they don't have to compete with one another for the same customers.

The candidate should want to know how territories are assigned. If it is based on geography, there could be a problem if junior salespeople are provided lower income neighborhoods, while senior salespeople command coveted higher-income neighborhoods (potentially skewed compensation).

On the other hand, territories could be based on industries of customers. For example, a few sales people sell to higher education, a few sell to businesses, a few to retail, etc. If the junior sales people are assigned to a client-group where they have to acquire new customers or where customers aren't familiar with the product, it could negatively impact their compensation.

Another issue could be that typically high volume customers for the firm are earmarked to be serviced by the senior sales team. This setup would inflate commission of the senior sales team to the detriment of junior members who are not able to experience the benefits of bigger clients or to build relationships with them.

A salesperson's commissions could be heavily impacted if their customers are geographically separated by large distances and they are forced to spend relatively more time on the road traveling than with customers.

This problem could be compounded if the junior salespersons are getting new potential customers who are far from each other.

Case #19: Heavy Attrition (4/4)

Recommendation

As a final question to the candidate, ask them for their recommendation.

- The interviewee should prioritize one of the factors discussed previously and provide their rationale for doing so (the rationale matters more than which factor is selected).
- They should also include some suggestions like the ones listed in the sample recommendation, and should be rewarded for creative ideas.

Recommendation

The client should review the incentive scheme for junior employees, namely by:

- Analyzing the type of products sold by different sales levels, as this is likely to have the greatest impact on sales commission
- Reviewing any adjustments required to even out sales effort among territories
- Compensating for differences in average distances to clients

Risks

- Increases in attrition among senior employees
- Other factors might be creating the attrition problem
- Fairer incentives not enough to compete on the labor market

Next steps

- Include senior employees in the decision making process / committee
- Investigate the main attrition caused through a survey to junior sales people
- Analyze competition and market best practices regarding compensation

Evaluation

As mentioned before, this case focuses on the candidate's ability to brainstorm. A good candidate will provide thoughtful reasoning about buckets and sub-bullets, making sure to have a MECE approach.

It is also important to drive the case and prioritize topics in order of importance after each brainstorming question. Additionally, the candidate should keep using the same ideas across questions to show confidence in the reasoning presented before.

Overall	Quant	Creativity
1	2	1

Case #20: International Airlines

Case Type:
Profitability

Bain & Company – Candidate Driven

Industry:
Transportation

Concepts Tested:

- Revenue Streams
- Competitive Landscape

Case #20: International Airlines (1/6)

BAIN & COMPANY – Round 1 – Candidate Led

Quant Level – LIGHT

Case Type

Industry

Client Type

Profitability

Transportation

International Airline

Fit Questions

- Of what experience on your resume are you most proud?
- How have you used analysis to guide your decisions?

Interviewer Guidance

This is a profitability case. The candidate should draw out a framework outlining the possible issues and then use it to ask exploratory questions. Ensure the candidate understands the airline business model before proceeding.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

One of our clients, a leading international airline, has come to Bain with a problem. Over the last three years they have noticed that while their business has been doing well, their profitability seems to be stagnant. They have come to us to try to determine what the issue is and how they can correct the problem.

Framework:

This is a classic profitability case, so a framework considering external factors (i.e. state of the airline industry, competitive landscape) and internal factors (i.e. revenue streams, costs) is appropriate. The framework should be industry specific.

Additional Information (to provide during discussion with the candidate):

The airline has two main lines of business: passenger and freight. **Provide Exhibit 1** only when asked about business segments (product mix or profit trends). The firm operates globally.

Case Development

- Framework
- Analysis of Freight
- Profitability evaluation
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #20: International Airlines (2/6)

Framework

Increase profitability by optimizing usage on freighter flights

This is not a market wide trend	Profitability is decreasing due to freight business	Freight business can be improved
<ul style="list-style-type: none"> • Clients <ul style="list-style-type: none"> • Market size • Overall growth trends • Demographic / client-mix changes • Competition <ul style="list-style-type: none"> • Same profitability trend? • New competitors in the market? • Innovation and trends <ul style="list-style-type: none"> • Alternative transportation developments affecting business (Uber, faster trains, etc.) 	<ul style="list-style-type: none"> • Revenues <ul style="list-style-type: none"> • Product-mix • Passengers • \$revenue / mile traveled ratio • Costs <ul style="list-style-type: none"> • Capacity utilization • Fuel costs • Maintenance • Personnel • Insurance 	<ul style="list-style-type: none"> • Major cost item can be improved making profitability grow • Investment needed to make the change is more than compensated by the upside (NPV, ROIC, BE analysis) • Special customer needs that make adjustments impossible (service levels) • Any long-term commitments? • Re-sell capacity

Working hypothesis: The client is experiencing decreases in profitability due to the freight business. I would like to begin by analyzing trends in the profitability of this business segment over the past several years.

Interviewer Guidance

- Note that this is a Bain & Co case and the candidate should start with an “Answer First” approach. The answer provided might be different as long as the supporting facts below are MECE and able to redirect the candidate to the correct analysis.
- The ideal candidate should be quick to hypothesize about the recovery of one of the business segments. If clarifying questions and answers already indicate there is a freight problem, the hypothesis should be related to freight flights.
- If the candidate did not take an answer first approach, the framework should include buckets associated with the market (size, customers and competitors), client profitability (detailed revenues and costs, airline specific, references to product mix) and execution (regulation, decision making, ability and client capabilities).

Case #20: International Airlines (3/6)

Exhibit 1: Segments

Revenue and Profit by Business Segment

	2000	2001	2002
Passenger Revenues	\$300 million	\$375 million	\$450 million
Profits from Passenger Business	\$140 million	\$165 million	\$190 million
Freight Revenues	\$212.5 million	\$225 million	\$275 million
Freight profits	\$200 million	\$190 million	\$120 million

Case #20: International Airlines (4/6)

Details About Freight

Let the candidate walk you through the data.

Provide the following information once candidate identifies freight as an issue:

- There are two main types of freight: belly freight, which is carried in the bays of the planes that are operating as passenger jets, and freighter freight, which is carried on specially-designed freighters.
- With the exception of live animal freight, which is an inconsequential portion of this airline's overall business, all types of freight can be carried on either freighters or passenger planes.
- Passenger planes typically have about 35% of the room for freight as compared to freighters.

Key Takeaways

- There might be a problem with the usage of freighter and passenger jets to carry the freight.
- Belly freight is a substitute for freighters themselves.
- Candidate should now ask for some information about the profitability of belly freight versus freighter freight.

Key Data

Provide the following once asked about belly versus freighter freight profitability. This box gives details on costs, then move to usage in the Additional Details box.

Revenues are included in Exhibit 2 (next page) and should be shown to candidate last.

- The cost per ton of belly freight (i.e. the incremental cost to the airline) is approximately 20% that of freighter freight.
- The time to deliver belly freight is approximately 10% longer than that of freighter freight.
- The destinations served are actually greater with belly freight flights than with freighter freight.
- They operate out of the same airports, although separate personnel are required to operate freighter freight flights.
- If belly freight or freighter freight capacity goes unoccupied, it's non-revenue generating (i.e. nothing else is carried in that space).

Additional Details

- International Airlines has quadrupled their number of freighters from 3 to 12 over the past 3 years. Further they have added new freighter flights. This has led to the usage of the freighters' capacity on each flight to drop from 85% to 35%.
- At the same time, the number of passenger flights has doubled and the number of destinations served via passenger flights has increased by 1/3. Belly freight capacity usage however has dropped from 85% to 60%.

Case #20: International Airlines (5/6)

Exhibit 2: Profits

The total cost for a freighter freight flight averages \$400,000 per flight and for passenger flights they are \$600,000 (regardless of the freight carried). Further, revenues for each flight from the freight move on a sliding scale based upon how full the planes are.

Revenue By Freight Usage

Freight usage:	25%	50%	75%	100%
Passenger (freight revenues per flight)	\$150,000	\$300,000	\$450,000	\$600,000
Freighter (freight revenues per flight)	\$200,000	\$400,000	\$600,000	\$800,000

Case #20: International Airlines (6/6)

Interviewer Guidance

Due to the unnecessary freighter expansion project, the airline is making \$280K per freighter flight down from \$680K. As a result, it is now losing \$120k per flight versus a profit of \$280k per flight.

- $\$800K * (85\%) = \$680K$ $\$800K * (35\%) = \$280K$
- \$400K cost per freighter flight:
 - Before: $\$680K - \$400K = \$280K$ profit
 - Current: $\$400K - \$280K = \$120K$ loss per freighter flight

- Much of this freight could be carried in the belly of the planes and would result in a cost free incremental profit to the airline.
- It can consider trimming its freighter operations to lower facility / personnel costs.
- It can consider entering into agreements with other freighter companies in order to share usage of planes and personnel in an effort to cut costs / maximize usage.
- The airline could try and become a leader in the express freighting business.

Recommendation

Examples:

- Use passenger flights' available freight capacity to serve current freight business and study the sale of freight business
- Sell available capacity to competition

Supporting factors:

- Freight business losing \$120k per flight
- Passenger flights at 60% capacity on belly freight
- Belly freight costs only 20% of that of freighter flights

Risks and Next Steps

Risks

- Can the company cover the same routes?
- Further reduction in use of freighter and passenger flight capacity
- Expensive and risky to try and become a leader in the express freighting business

Next Steps

- Analyze need to reduce number of routes to return to profitable freighter flights while maximizing usage of passenger freight to increase profit
- Review any possible contractual constraint on selling / divesting from freight
- Analyze spin-off opportunities for freight business (business valuation)

Evaluation

A good candidate takes an answer first approach with MECE supporting factors. Additionally, specially for this case, the candidate should clarify the business model of the firm, namely regarding product mix. The candidate should also be able to understand the math and provide the conclusion that the firm is losing \$120k / freight flight without any support from the interviewer.

Overall	Quant	Creativity
2	1	2

Case #21: Katrina

Case Type:

Non-traditional

BCG – Candidate Driven

Industry:

Non-profit / Education

Concepts Tested:

- Structured brainstorming
- Root cause analysis

Case #21: Katrina (1/4)

BCG – Round 1 – Candidate Led

Quant Level – LIGHT

Case Type

Industry

Client Type

Non-traditional
Problem

Non-profit/
Education

School System

Fit Questions

1. Tell me about a time when you did not meet a goal. How did you overcome / respond to this?
2. What are three adjectives your coworkers would use to describe you?

Interviewer Guidance

This case provides a good balance between quantitative and qualitative reasoning skills, and also introduces a new perspective and set of client goals for the candidate to consider that differ from the typical business profitability model.

The objective of this case is to see if the candidate can break down a problem statement to analyze the different causes that might be contributing to the issue at hand.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

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

- 1) How many schools do they need to reopen within the next couple of months?
- 2) What can be done to improve the quality of education?

Additional information (to be provided if candidate asks):

- Before Hurricane Katrina, New Orleans Public Schools ranked as one of the lowest performing school districts in the country. The district faced significant financial problems and was on the verge of bankruptcy.
- There were 64,000 students displaced due to the hurricane, and 64 schools before the hurricane struck. Since then, 18 have been reopened.
- Approximately 24,000 students have already returned to the state and about 1,600 students are returning every month.
- Before the hurricane, the school district statistics were the following:
 - For every 10 students who enrolled in schools, fewer than 6 made it to graduation.
 - Of those graduating, only 2 enroll in college.

Case Development

1. Framework/ Q&A
2. Quantitative discussion
3. Qualitative discussion
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #21: Katrina (2/4)

Framework

Improve New Orleans school system

Number of schools needed in 2 months

- Number of students
 - Students who did not leave during Katrina
 - Current number of returned students
 - Additional students over the next 2 months
 - Return rate of students to New Orleans
 - Increases in students from other states due to natural disasters nearby (TX, FL)
- Capacity per school
 - Goal: Pre-Katrina level? (1000 students per school) Higher?

Improve quality of education

- Quality of teachers
 - Incentives to teach in New Orleans (pay, non-financial benefits)
 - Hiring criteria, national recruitment program
 - Coaching & leadership development programs
 - Curriculum development, learning standards (district, state, national)
- School environment
 - Leadership and administration
 - Safety, building quality & welcoming atmosphere
- Current socioeconomic needs of students: health & emotional supports

Transition statement: I would like to begin by analyzing the expected change in student population over the next two months. Then, assess the highest lever areas to improve the quality of education.

Interviewer Guidance

- The candidate should build a high-level framework that addresses both questions: 1) number of schools to open and 2) how to improve the quality of education.
- If the candidate does not address the quality issue, ask a specific question (Q2) after solving for the math for schools needed.
- A good candidate will present a hypothesis and / or potential solutions while walking the interviewer through the framework.

Case #21: Katrina (3/4)

Question 1

How many schools does the district need to reopen by the end of next month?

- From their framework, the candidate should suggest that identifying the change in student population to determine the number of schools to open is the starting point for this case. The candidate and interviewer should go through the math below to answer question one.

Note: The information required to answer this question is given on slide 1. If this was not already given to the candidate, it should be told to the candidate now.

Calculations:

- Formerly, 64 schools with 64,000 students, so 1,000 students per school.
- 18 schools have reopened already.
 - $18 * 1,000 = 18,000$ students can currently be accommodated.
- Number of students who have returned to New Orleans = 24,000.
 - Shortfall in capacity: $24,000 - 18,000 = 6,000$ students.
- Every month, 1,600 students return.
 - By next month, there will be a shortfall of $6,000 + 2 * 1,600$ (current month + next month) = 9,200 students.
- Thus, by end of next month, the school district should target to reopen 10 new schools with a capacity of 1,000 students each to accommodate 9,200 students.
 - Beyond that, the school district would need to open ~2 schools per month to accommodate the 1,600 students returning every month.

Question 2

What can be done to improve the quality of education?

Interviewer guidance:

The below answers are just ideas. The objective of this exercise is to see if the candidate can break down a problem statement to analyze the different causes that might be creating the problem. This should be a structured brainstorm.

Teachers & Curriculum

- Attract, develop and retain quality teachers.
- Provide incentive structures (teacher pay, non-financial incentives)
- Additional support in curriculum development; coaching and leadership development programs
- Engage students better by catering to subjects that are more pertinent to today's world. For example, courses like computer education could give students an edge getting jobs in high-paying sectors. Also, offering education in practical areas like carpentry, masonry, nursing etc. could translate directly into local jobs.
- Benchmark best practices with other school districts and state and national standards.

School Environment

- Attract, develop and retain quality principals and administrators.
- Improve the student teacher ratio to allow for more individual attention while ensuring adequate capacity in the schools.
- Experiment with new school models by setting up a charter system allowing involvement of private groups and corporations.
- Grant some amount of autonomy to the schools in exchange for increased accountability, encouraging sharper focus on student achievement. This could also provide an incentive for schools to find creative ways to decrease spending in administration and instead invest the money in instruction.

Community

- Get the community involved, including parental involvement in school activities, which would be particularly helpful during the rebuilding period.
- Advertise changes currently being implemented to facilitate community understanding and buy-in.
- Get local and national non-profit and/or corporate involvement. This will allow for additional funding to achieve goals.

Case #21: Katrina (4/4)

Recommendation

The school district should:

- Immediately open 10 more schools, and 2 more each month going forward
- Utilize earlier brainstorming ideas to ensure improvement of school quality during re-openings

Supporting factors:

- Schools are currently over capacity (>1,000 students on average)
- More incoming students every month (1,600)
- Need to increase teaching quality

Risks and Next Steps

Risks

- Fewer incoming students than expected and negative press related to quality of school openings
- Lack of funding to carry out goals
- Further decline in quality due to hurried pace of school re-openings

Next Steps

- Develop marketing campaign (e.g. with local media) to show school opening and quality to attract students
- Use additional exposure as a venue to request more funding (ex. from endowments, foundations, charities and donors)
- Focus on attracting / retaining better teachers, using industry best practices when developing schools models and setting student-teacher ratios

Evaluation

A basic answer will demonstrate an understanding of:

- Numeric calculations required to achieve capacity requirements.
- Importance of focusing on the quality of the schools instead of just the number being opened.
 - Specific ways to increase quality should be mentioned, such as developing more practical curriculum or focusing on attracting and retaining higher-quality teachers.

Excellent candidates will also:

- Demonstrate an understanding of the risks associated with these goals and suggest ways to mitigate them.

For example:

- Media portrayal is a risk because they might focus on the negatives, especially if the schools cannot provide adequate capacity quickly enough for the returning student body. In that case, students may be dissuaded from returning, causing even more harm to the school district. Forging relationships with the media to cover advancements and achievements of the schools would be a way to mitigate the risk, and could even be turned into a plus by providing a venue to ask for additional funding.
- For a community rebuilding itself, costs can be a constraint. However, it can be also viewed as an opportunity to get endowments to fund new plans, especially while public awareness and support for the disaster relief is high.

Overall	Quant	Creativity
2	1	2

Case #22: Linda's Great Burgers

Case Type:

Mergers and Acquisitions

McKinsey & Co – Candidate Driven

Industry:

Restaurant, Food & Beverage

Concepts Tested:

- Chart clearing
- Assessing synergies

Case #22: Linda's Great Burgers (1/5)

MCKINSEY & CO – Round 1 – Interviewer Led

Quant Level – LIGHT

Case Type

Industry

Client Type

Mergers & Acquisitions

Restaurants, Food & Beverage

Fast Food Chain

Fit Questions

1. Tell me about a time you had to lead a team through a complex challenge.
2. Tell me about a personal or professional challenge where you had to make risk decisions.

Interviewer Guidance

This case is an acquisition case. You will want to assess the candidate's thought process and how they structure a road map to assess whether or not acquiring the target company is a good strategy for the client.

This case also offers several opportunities to brainstorm. You will push the candidate to brainstorm at several points in the case.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is Linda's Great Burgers (GB). GB is a worldwide fast food chain store. Linda's uses the individual franchise model to sell burgers. The client feels the burger market is saturated and is exploring acquisitions for growth. To increase growth Great Burgers is thinking of acquiring Heavenly Donuts.

Heavenly Donuts (HD) is a young coffee/donut chain. It's business model is a territorial franchise model (i.e. franchisers are granted specific regions to sell donuts). HD is a worldwide company.

Is HD a good acquisition and match for GB?

Case Development

1. Framework
2. Exhibit 1 & Synergy Calculation
3. Growth Calculation
4. Synthesis

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #22: Linda's Great Burgers (2/5)

Framework

Linda's GB should acquire HD

Donut Market

- Customers
 - Market Size
 - Trend
 - Segments
 - Sales %
- Competition
 - #
 - Size and penetration
- Substitutes
 - Bagels?
 - Healthy versions?

HD

- Profitability
 - Revenues (PxQ)
 - Costs
 - Labor
 - Stores
 - Variable
- Market share

Investment

- Expected amount needed (valuation)
- NPV
- ROIC
- BE
- Capacity of GB to fund acquisition?
 - Debt
 - Equity

Fit with GB

- Management capabilities
- Synergies
 - Growth (revenues)
 - Efficiency (costs)
- Location and operational challenges related to logistics
- Cultural fit

Working hypothesis: GB should acquire HD. To test this hypothesis, I would like to analyze each of these four parameters, beginning with GB's and HD's market positions first.

Interviewer Guidance

- Allow the candidate to discuss their framework. Probe into some areas to see how the candidate is thinking about the problem. After you have discussed the framework, **provide the candidate with Exhibit 1.**
- Ask the candidate, *"where might there be synergies in the acquisition?"*

Case #22: Linda's Great Burgers (3/5)

Exhibit 1

	Great Burger	Heavenly Donuts
Stores		
Total	5000	1020
North America	3500	1000
Europe	1000	20
Asia	400	0
Other	100	0
Financials		
Growth in stores	10%	15%
Total sales (\$m)	5500	700
Parent revenue (\$m)	1900	200
Cost		
COGS	51%	40%
Restaurant operating costs	24%	26%
Property and equipment	4.6%	8.5%
Corporate SG&A	6.3%	4.9%
Profit		
Sales/store (\$m)	1.1	0.7
Industry average (\$m)	0.9	0.8

Case #22: Linda's Great Burgers (4/5)

Interviewer Guidance

There is sufficient data for numerous observations. A good interviewer will push the candidate to find at least five. The candidate should communicate the findings in a confident, enthusiastic, and relationship-building manner.

Revenue synergies:

- Market coverage - GB covers more market than HD, so it could bring HD into more markets (such as Europe and Asia).
- Based upon its better local business knowledge, GB could more rapidly bring HD into markets and in some geographies even experiment with cross-selling to the customers (i.e. placing the stores right next to each other under one roof).

Cost savings through economies of scale/scope:

- Raw material purchasing (volume discount)
- Consolidate property and equipment
- Decrease Corp SG&A

Improve HD's operation:

- GB is performing better than industry average while HD's is performing worse than the industry average. GB could transfer its better franchise model and store management to HD to improve HD's performance.

Additional Question

After discussing synergies, ask the candidate the following:

What would revenues per store need to be if HD were to double market share in 5 years?

Response:

- Current revenue = \$700M
- Double current revenue to double market share = \$1.4B
- $\$1.4B / 1020 \text{ stores} = \$1.37M \text{ revenues per store}$
- Thus, assuming total market size and number of stores do not change, revenues would need to be \$1.37M per store.

Interviewer Guidance

- Candidate should immediately look at the above calculation and think about whether it's feasible. You would need to double revenues per store from \$686.3K ($\$700M / 1020 \text{ stores}$) to \$1.37M over 5 years. This means that HG would have to grow revenues by around 15% per year, so it should be feasible.
 - General convention: double in 5 years implies ~15% CAGR.
 - Candidate should mention caveats, such as consumers' needs, competitors' response, and GB and HD's ability to attain this per store revenue growth.
- Brainstorming:
 - Push the candidate to list some ideas to promote such growth. This list should be structured.

Case #22: Linda's Great Burgers (5/5)

Interviewer Guidance

Other areas you can develop with the candidate involve company cultures and management issues. They are not beyond the scope of the case, but we leave it to the interviewer to be creative in making them up.

- After this discussion, ask the candidate for a final recommendation based on their findings.

Evaluation

This case definitely tests a candidate's interpersonal skills and creative thinking. In discussing the case afterwards, remind the candidate that getting ready for a case interview is as much about learning to be a good interviewee (i.e. practicing relationship building and creativity skills) as anything else.

Recommendation

Recommendation

GB should invest in HD for several reasons:

- Possibility of doubling HG market share in 5 years
- Potential growth synergies, specially through geographic expansion
- Complementary businesses that can improve revenues for both businesses
- HD revenue per store can be optimized based on GB

Risks

- Donuts not an attractive food option in expansion markets, trouble generating demand
- Cultural mismatch
- New entrants and market trends – healthier options?

Next Steps

- Other due diligence GB might need to do:
 - Physically visit HD locations analyzing consumer demand
 - Perform market analysis
 - Customer surveys
- Perform valuation of HD (get to know investment needed), study financing options (debt and equity), and learn about culture of HD to ensure it is a fit
- Market analysis to better understand competitors and substitute availability

Overall	Quant	Creativity
3	3	3

Case #23: Lola Lo's Zoo

Case Type:

Investment Decision

Undisclosed – Candidate Driven

Industry:

Entertainment

Concepts Tested:

- Net present value
- Brainstorming

Case #23: Lola Lo's Zoo (1/6)

UNDISCLOSED – Round 1 – Candidate Driven

Quant Level – HEAVY

Case Type

Industry

Client Type

Investment Decision

Entertainment

Zoo Owner

Fit Questions

1. Tell me about a leader or role model in your life. Why do you admire them? What lessons have you learned from them? What is a recent example of you applying those lessons?
2. Tell me about a time you had to pivot your initial approach. How did you go about it?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Interviewer Guidance

The candidate should realize that this is a net present value investment problem, meaning that Lola Lo should be willing to purchase the dinosaur at any price producing a positive net present value.

If the candidate asks about Lola Lo's objectives, respond, "Lola Lo is primary interested in whether the investment would pay for itself, but is also thinking more broadly about other benefits".

If the candidate asks about timeframe, respond, "If Lola Lo decides to move forward, the zoo would like to invest and set up the exhibit as soon as possible".

Case Prompt

Our client, Lola Lo, owns and runs a zoo in a major metropolitan area within the United States. There has been a recent discovery of a dinosaur on a small island in the South Pacific. This is the only dinosaur in the world. Lola Lo would like to investigate if purchasing the dinosaur is a good project.

Specifically, please help our client with the following questions:

1. How would you determine if purchasing the dinosaur is a good project?
2. If it is, how would you determine the purchase price for the dinosaur?

Case Development

1. Framework
2. Discussion/Q&A
3. Net Present Value analysis
4. Investment decision
5. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #23: Lola Lo's Zoo (2/6)

Framework

Working hypothesis: Lola Lo should purchase the dinosaur at a price that is less than the overall investment breakeven point.

- Will the dinosaur investment be at least breakeven?
 - Revenues
 - Ticket sales
 - Food, hotel accommodations
 - Movie & entertainment licensing
 - Merchandise
 - Research
 - Costs
 - Purchase of dinosaur
 - Construction of exhibit area
 - Staff to serve the dinosaur
 - Food & merchandise sales
 - Operations
- Will it be feasible to transport and show the dinosaur in the zoo?
 - Risks
 - Disease or death; cloning or discovery of additional dinosaurs
 - Safety & legal considerations
 - Transportation and Display
 - Movement of dinosaur from South Pacific
 - Sustaining a healthy dinosaur in a captive environment
 - Meeting zoo visitors' preferences to view the dinosaur

Interviewer Guidance

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should clearly demonstrate how the questions they're asking are directed at answering the specific question of whether Lola Lo should purchase the dinosaur.
 - It's less important for the hypothesis to be backed up with evidence, since it's so early in the case (though strong candidates will draw on their own knowledge and intuitions to develop preliminary insights about the potential for this new exhibit at the zoo).
- Is breakeven the primary consideration? Are external factors considered?
 - Breakeven is the deciding factor for Lola Lo. It's OK for candidates to discuss other considerations, but their primary focus should be on whether the investment would at least break even.
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of the zoo and new exhibit, rather than just generic ideas about investment.
 - For example, how do you determine the revenue from tickets? Are you proposing a separate ticket? If so, then you can count those revenues. If you are proposing the same ticket for the zoo and dinosaur exhibit, then not all the revenues from tickets will count. Only the revenues from the tickets in excess of original ticket sells will count.

Case #23: Lola Lo's Zoo (3/6)

Case Development

Facts about the Dinosaur and Zoo

- The dinosaur is the size of an elephant.
- The dinosaur can easily be transported from the South Pacific to the United States.
- The dinosaur cannot reproduce.
- The dinosaur is not violent, but cannot interact with non-trained individuals.
- The zoo has enough land to house the dinosaur and construct an exhibit area without reconfiguring the existing park.

Age and Lifespan of the Dinosaur

While the actual numbers are not that important, the candidate needs to realize that this is a net present value problem and the project lasts as long as the dinosaur is alive. It is important to determine the age and lifespan of the dinosaur.

Before disclosing the following information, the candidate should suggest ways of determining both the age and the lifespan of the dinosaur.

Some suggestions could be consulting a dinosaur expert, DNA testing, fossil testing, comparisons to living animals, examining growth rate/metabolism, etc.

Provide candidate with the following once they come up with age and lifespan suggestions:

- Current Age: 21 years
- Expected Lifespan of Dinosaur: 50 years

Interviewer Guidance

The candidate should drive the case forward. Provide the candidate with the information below when it is requested. Push the candidate to think about specific ways to estimate revenue, costs, and profits for the dinosaur within the zoo. Don't simply disclose information if asked open-ended questions about expected revenue, costs, or profits. If a candidate is unable to identify an item after brainstorming, you can provide it so that the candidate's math is complete.

Revenues (annual)

- Tickets: \$2,000,000
- Hotels Accommodations: \$1,000,000
- Movie & Entertainment Licensing: \$500,000
- Food in the Park: \$500,000
- Merchandise: \$250,000
- Research: \$250,000

Fixed Costs (one-time)

- Dinosaur: Unknown (This should be solved.)
- Exhibit Area and Housing Area: \$15,000,000

Variable Costs (annual)

- Staff to Serve the Dinosaur: \$1,000,000
- Food & Merchandise Sales: \$250,000
- Operations: \$250,000

Case #23: Lola Lo's Zoo (4/6)

Calculations

Operating Profit

Based on the information provided, we can calculate the annual operating cash flows for the next 29 years as follows:

Annual Revenue

- \$2M (tickets) + \$1M (hotel) + \$0.5M (movie) + \$0.5M (park food) + \$0.25M (merchandise) + \$0.25M (research) = \$4.5 M

Annual Costs

- \$1M (staff) + \$0.25M (food & merchandise) + \$0.25M (operations) = \$1.5 M

Annual Profit

- Annual Operating Profit = \$4.5 M – \$1.5M = \$3M

Discount Rate

- Besides knowing the expected lifespan of the dinosaur and all the revenues and costs, the candidate needs to ask about the discount rate.
 - Discount rate = 10%

NPV

- Now with all the information, the candidate can determine the highest amount that the client should pay for the dinosaur.
 - Assume revenues and costs are static over time to simplify the equation.
 - To solve for maximum cost of dinosaur, assume the breakeven NPV = 0 .

Calculations (Continued)

NPV

- To calculate the value of cash flows for the next 29 years, break down the net present value into two parts:

$$NPV_{\text{today to infinity}} = NPV_{\text{today to 29 yrs}} + NPV_{\text{29 yrs to infinity}}$$

- We can solve for the NPV of cash flows from today to infinity using the formula for a perpetuity.
- We can also solve for the NPV of cash flows from 29 years to infinity. We just have to discount the starting value of the perpetuity by 29 years.

$$NPV_{\text{today to 29 yrs}} = NPV_{\text{today to infinity}} - NPV_{\text{29 yrs to infinity}}$$

$$NPV_{\text{today to 29 years}} = \frac{\$3M}{0.1} - \frac{\$3M}{0.1} \cdot \frac{1}{1.1^{29}} \approx \$30M - \frac{\$30M}{16} = \$28.125M$$

- Find the breakeven point between the fixed costs and the value of the returns of the investment:

$$\begin{aligned} \$28.125M - \text{fixed costs} &\geq 0 \\ \$28.125M - \$15M - \text{cost of dinosaur} &\geq 0 \\ \$13.125M &\geq \text{cost of dinosaur} \end{aligned}$$

Math Shortcut

- It is not possible to calculate 1.1^{29} by hand, so use the rule of 72 on 10%:
 - $72/10 = 7.2$ (value doubles every 7.2 years)
 - 29 years divided by 7.2 years is roughly four
 - Doubling happens four times at this rate and duration, so $1.1^{29} \approx 2^4 = 16$

Case #23: Lola Lo's Zoo (5/6)

Brainstorm: Exhibit Design

After concluding the breakeven analysis, ask the candidate, *"If you were asked to design the exhibit area for the dinosaur, what are the major things that you would consider?"*

Safety & Logistics

- Safety of viewers: nets, cages, alert systems
- How to route traffic around the exhibit area
 - Moving walkway: prevents traffic from building up and controls the cycle time that spectators spend in the exhibit area
- Multiple levels: more spectators can cycle through simultaneously

Experience & Well-being

- Dinosaur well-being: feeding, grooming, health monitoring
- Size of the exhibit area: balance between sufficient space for the dinosaur to roam and sufficient proximity for spectators to see
- Spectator experience and viewing efficiency

Interviewer Guidance

- Throughout the case, the candidate should relate their insights back to the central hypothesis being tested.
- The candidate should also realize that the dinosaur will not live forever; therefore, the revenue stream will disappear when the dinosaur dies.
- Strong candidates will make case-specific observations (relevant to this particular investment consideration of a dinosaur within Lola Lo's Zoo), rather than using generic ideas about investments.

Case #23: Lola Lo's Zoo (6/6)

Recommendation

- Lola Lo should purchase the dinosaur and pay no more than \$13.125M
 - The investment calculations show a positive net present value for a purchase price equal to or less than \$13.125M
 - The zoo should expect \$3M total annual profit from the dinosaur exhibit for the next 29 years
 - The dinosaur's exhibit can be designed to maximize efficiency and spectator safety

Risks

- The dinosaur could die of diseases in North America
- No zoo in the world has ever cared for a dinosaur before; this creates a host of unknowns in the exhibit area that could drive up costs
- The dinosaur may come into contact with non-trained individuals more frequently (e.g. spectators) than a normal animal, raising liability risk

Next Steps

- Engage scientific experts for advice in caring for the livelihood of the dinosaur
- Evaluate dinosaur exhibit designs and associated costs by comparing options to those for similarly-sized animals at other zoos
- Conduct design review of the proposed exhibit to ensure safety; evaluate insurance options

Overall	Quant	Creativity
2	1	3

Case #24: Lost Patent

Case Type:

Revenue

Kearney – Interviewer Driven

Industry:

Pharmaceutical / Healthcare

Concepts Tested:

- Structured brainstorming
- Vague information handling

Case #24: Lost Patent (1/4)

A.T. KEARNEY – Round 2 – Interviewer Led

Fit Questions

1. Tell me about a time where you had to make a decision based on incomplete information. How did you do it?
2. How do you see yourself becoming involved in the culture / various initiatives of this Firm?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your team has been working with a major drug company on their future strategy. Their patent on a blockbuster drug, Zewal, will run out in less than a year. It currently generates half of their revenues, while 10 other drugs generate the other half of revenues. Their next blockbuster drug is still more than 5 years away from being ready and mergers are not possible. *How can we help the company?*

Additional information (to provide in discussion with candidate):

The company is efficient and well-run. In fact, they have been cutting costs for the last few years and they are competitive with industry standards.

Interviewer Guidance

This case tests the candidate's business acumen as they should understand why cost savings are not likely and focus on revenues instead. This case is also very open-ended and not focused on quantitative problem-solving; it would likely be paired with a heavy quant case.

Quant Level – LIGHT

Case Type	Industry	Client Type
Revenue	Pharmaceutical / Healthcare	Drug Company

Case Development

1. Framework
2. Brainstorming
3. Discussion/Q&A
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #24: Lost Patent (2/4)

Framework

Drug Market

- End user: our drug effectiveness, rate of disease it treats
- Competitors
 - Strategic position in the market
 - Salesforce positioning
 - Their drug effectiveness
 - Substitutes (generics)

Profit Maximization

- Revenues
 - Increase sales volumes for drug before and after patent expires
 - Identify potential new customers (doctors, hospitals, etc.)
 - Identify potential new channels for POS (drug stores / pharmacies)
 - Create own generic knock-off (cannibalize self)
 - Increase sales volumes for other 10 drugs
- Costs
 - Industry standards and relative positioning

Drug Company

- Evaluate salesforce effectiveness
 - # of employees relative to industry
 - Compensation structure & company policies for Zewal sales
 - Re-incentivize to sell other company drugs as Zewal patent expiration nears
- Advertising growth
 - Targeted marketing programs

Working hypothesis: Since costs are not an issue, I would like to focus first on ways to maximize revenue from Zewal before its patent expires. Then, I would like to consider any marketing and salesforce changes necessary to support sales increases. Therefore, it would be nice if we had information on how we currently sell Zewal.

Interviewer Guidance

- The prompt is intentionally vague. The candidate should seek to clarify what is meant by “help the company”. The candidate should also recognize this is not a cost-cutting case. If they push on this subject, let them know this is a well-established firm that has been cutting costs for several years.
- The candidate should seek additional information on each of these sections in their framework to drive towards a recommendation. Ask questions to probe for more information and logic (see next page for questions).
 - Customer
 - Competition
 - Company
- The structure for this case is very open-ended. A good candidate will have developed a structure which includes each of the areas above and more.
- The candidate should recognize that acquisitions are not possible (given in the prompt), so the interviewer should redirect them if they attempt to pursue this option.

Case #24: Lost Patent (3/4)

Analysis: Questions 1 & 2

Analysis 1 - Sales Revenue: Ask the candidate to identify ways to increase sales of their drugs.

- Customer demographics are as follows (provide to the candidate if asked):
 - Salesforce mainly sells to doctors.
 - 20% of all doctors make up 80% of prescriptions.
 - They consistently keep in touch with major HMOs.
- Potential answers include the following:
 - Increased samples to doctors.
 - Expansion of coverage networks.

Analysis 2 - Sales & Marketing Efforts: How many sales personnel should be added?

- Salesforce demographics are as follows (provide to the candidate if asked):
 - Dedicated salesforce of 150 people. On average a sales person is responsible for 100 doctors.
 - The industry standard is one per 50 doctors.
 - The rival company has the advantage of a bigger salesforce which can reach out to 35% of all doctors in the U.S.
 - Our client's reach is about 10%.
- Potential answers include the following:
 - The candidate should consider the cost of hiring versus the benefit; they should stop adding when the marginal cost > marginal revenue.
 - Optional: ask the candidate to sketch this graphically with basic (no numbers) marginal revenue and marginal cost curves

Analysis: Questions 3 & 4

Analysis 3: How would changes in the compensation structure affect sales?

- Provide to the candidate if asked:
 - The sales person's compensation structure is dependent on the contribution margin of the drugs they sell. Each sales person has a portfolio of drugs with varying margins.
 - The contribution margin for Zewal is the lowest. So far this strategy has worked as there is more pull for the drug than push required from the sales people.
- Potential answers include the following:
 - The candidate should walk through the potential benefits from increased sales with the risk of increased costs.

Analysis 4: What are some potential ways to improve advertising given competitor's positions?

- Competition is as follows (provide to the candidate if asked):
 - There is presently no single drug that has a similar chemical composition as Zewal, but doctors have been trying out a combination of drug regimen from a rival company.
 - When the patent expires, our client will get about 6 months before generic drug companies come up in the market.

Case #24: Lost Patent (4/4)

Recommendation

The drug company should:

- In the current year before the drug expires our client should seek to maximize potential revenue by:
 - Expanding their sales & marketing department (MR> MC)
 - Improving advertising to bolster sales to doctors
- Our client should also seek to improve their position after the patent expires by:
 - Attempting to patent a specific dosage size
 - Maximizing sales effort through direct-to-customer marketing
 - Consider revising the salesforce compensation structure for the drug

Risks and Next Steps

Risks

- Competitors could develop a generic drug faster than expected, reducing potential revenues
- Increasing the salesforce and changing the compensation structure could generate more costs than expected, thus reducing profitability

Next Steps

- Analyze capabilities of competitors and determine if we can create contracts with high-potential doctors and hospitals to be their only supplier of Zewal
- Carefully monitor costs of new sales and marketing programs and incentives structure

Evaluation

There is no “right” or “wrong” answer. Candidate should show business judgment when evaluating revenue vs. cost strategies.

Excellent candidates will:

- Quickly recognize that this is a not cost-reduction case, as they are a well-established company that has been cutting costs for years.
- Identify multiple possibilities to increase revenues both before the patent expires and after.

Overall	Quant	Creativity
3	3	2

Case #25: Midwest Machinery

Case Type:
Sourcing/Outsourcing

Bain & Company – Candidate Driven

Industry:
Industrial Goods

Concepts Tested:

- Math structuring
- Brainstorming

Case #25: Midwest Machinery Co. (1/6)

BAIN & COMPANY – Round 1 – Candidate Led

Quant Level – HEAVY

Case Type

Industry

Client Type

Sourcing /
Outsourcing

Industrial Goods

Manufacturing

Fit Questions

1. Tell me about a time you had to develop a creative solution to solve a problem.
2. Think about a 'good team' that you've been a part of – what made it a good team and how did you contribute to it?

Interviewer Guidance

This case involves brainstorming and considerable quantitative analysis. It is a good exercise for those who wish to practice 'case math,' particularly when working through the optional questions.

Excellent candidates will distinguish themselves through their ability to synthesize the quantitative and qualitative aspects, particularly by factoring key details from the Q&A / discussion into the mathematical calculations and by demonstrating an understanding of both components when providing their final recommendation.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Situation

- Midwest Machinery makes a variety of machines designed for the medium to heavy industrial sector that are used in factories, farms, and industrial buildings. Revenues are \$3B and net profit margins are 12%.
- The CEO wants to **find cheaper ways to produce machines**, and has pushed management to search for alternate suppliers in faraway places such as Colombia, Shanghai and India.
- The CEO also wants to **increase efficiency in processes that support operations**. In particular, they want to ensure that basic activities that do not involve intellectual capital are performed at the lowest cost possible. The CEO respects the company's traditions and strong sense of community with the town, but knows that profitability must come first for them and their shareholders.

Issue and Question

- The MM team has proposed moving the manufacturing process for the XL292 machine, a critical machine for many of their end products, to India. These results may affect the CEO's decision on whether to outsource other processes, as there is a total of \$300M in costs with outsourcing potential. Before the CEO looks at the financial data, they want to have a clear understanding of the pros and cons of outsourcing.
- Develop a structure for thinking through the pros and cons of outsourcing this process to India. Explain the model and what you would advise the CEO to consider as they review the data.

Case Development

1. Q&A/ Discussion
2. Framework
3. Quantitative analysis
4. Optional questions
5. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #25: Midwest Machinery Co. (2/6)

Framework: India

Pros

- **Financial:**
 - Cheaper labor, facilities, etc. abroad
- **Plant operations:**
 - Unnecessary production may be streamlined resulting in more savings long term, opportunity to build in higher capacity in new plant (if needed)

Cons

- **Financial:**
 - Potential hidden costs with respect to handling products, quality control, currency exchange rates, and doing business in a foreign country
- **People:**
 - Fearing for their jobs, good people may leave
- **Plant operations:**
 - Idle capacity may cause further expense in local plants
- **Community relations:**
 - Backlash from community may hurt company brand/reputation
- **Funding:**
 - Upfront CAPEX investment will be required to move production; could be difficult to obtain funding from banks

Framework: U.S.

Pros

- **People:**
 - Loyalty, best people stay, morale will be up
- **Plant operations:**
 - Capacity will remain steady
- **Community Relations:**
 - Unions and community leaders will continue to support Midwest management
- **Technology:**
 - By producing locally, Midwest can quickly keep up with technological changes

Cons

- **Financial:**
 - MM will continue to waste profits due to high costs
- **People:**
 - Good employees may still leave as personal opportunities diminish

Working hypothesis: Midwest should outsource production to increase profits and to remain competitive in the market. I would like to begin by exploring the economics of such a decision, and then consider the impact of outsourcing on the people and community.

Interviewer Guidance

Additional information to be provided (only if asked):

- **Community** – The company is located in a small town in the U.S. and has been the largest employer there for over 30 years.
- **Unions** – Midwest is unionized but the union and management have typically been on friendly terms.
- **CEO Personal Incentive** – If they save the company over \$50M this year, they will receive a \$1M bonus.
- **Competitors** – They have been benefiting from lower costs associated with outsourcing for years.

Question 1:

Once the candidate has discussed their framework, they should drive toward next steps and a data request. If not, guide the candidate to an economic analysis of the decision (**show Exhibit 1**). If the candidate does not automatically begin, ask them to calculate the profitability of staying local vs. going abroad to India.

Case #25: Midwest Machinery Co. (3/6)

Exhibit 1

Economics of Staying Local or Outsourcing to India

	Stay Local	India
Total Units	10,000	10,000
Labor and benefits per hour	\$30	\$7
Hours to produce a unit	6	8
Material Cost per unit	\$400	\$250
Holding cost per unit	\$30	\$20
Shipping cost per unit	\$15	\$44
Import Duty	\$0	\$90
Made in USA credit per unit	\$85	\$0

Case #25: Midwest Machinery Co. (4/6)

Economics: U.S.

Sample response:

= (Labor * Hours) (30*6 = \$180)
 + Materials (\$400)
 + Holding cost (\$30)
 + Shipping (\$15)
 + Import duty (\$0)
 - USA credit (\$85)

 \$540/unit

\$540/unit * 10K units
 = \$5.4M total cost

Economics: India

Sample response:

= (Labor * Hours) (7*8 = \$56)
 + Materials (\$250)
 + Holding cost (\$20)
 + Shipping (\$44)
 + Import duty (\$90)
 - USA credit (\$0)

 \$460/unit

\$460 * 10K units
 = \$4.6M total cost

Interviewer Guidance

- Cost savings = \$0.8M (\$5.4M - \$4.6M) or 14.8% (~15%, \$0.8M/\$5.4M)
- Extrapolating to other processes of \$300M of costs with outsourcing potential – it can save up to ~45M (\$300M * ~15%)
- \$45M is ~13% of Midwest's bottom line (\$3B * 12% = \$360M of profit, \$45M/\$360M = 12.5%)

Ask the candidate:

Returning to your model, how has the outcome of your calculations affected your thinking about this problem, if at all?

- Candidate should return to their framework and initial hypothesis and use the data to either confirm or to shift their hypothesis. The candidate should consider risks and next steps based off of this data and their conclusions. This response is an opportunity to demonstrate structured thinking (in written form) before moving on to questions 2 and 3.

Case #25: Midwest Machinery Co. (5/6)

Question 2

What would happen if labor costs in India doubled?

Sample response:

= (Labor * Hours) ($7 \times 8 \times 2 = \$112$)
+ Materials (\$250)
+ Holding cost (\$20)
+ Shipping (\$44)
+ Import duty (\$90)
- USA credit (\$0)

\$516/unit

\$516 * 10K units
= \$5.16M total cost

- Save ~4% as compared with staying local ($(\$5.4M - \$5.16M)/\$5.4M$)
- If outsource all \$300M in costs = ~\$12M savings ($\$300M \times \sim 4\%$)
- Total savings represent ~3% of current profit margin ($\$12M/\$360M$)

Question 3

At an investment of \$2.5M, how many units would Midwest Machinery Co. need to break even? (Use original labor costs.)

Sample response:

- Breakeven when investment = Total cost saved
- Cost savings = \$80/unit
- Investment = \$2.5M
- Breakeven:
 - Investment = Cost savings * Units
 - $\$2.5M = \$80 \times \text{units}$
 - $\$2.5M/\$80 = 31,250$ units to breakeven on investment

Case #25: Midwest Machinery Co. (6/6)

Recommendation

- Midwest should **outsource production of the XL282 machine**:
- Midwest can expect to save about \$0.8M when going abroad with the XL282 machine, with a total expected outsourcing potential of around \$45M. Although the savings for this individual machine do not seem high enough to merit overseas investment, the aggregate overseas potential is large enough to justify the risk.
- Based on the 'pros and cons' discussion, it may be a good idea to perform a pilot using the XL282 machine, making sure this part is successful before moving the additional processes totaling \$300M of costs to India.

Evaluation

- The candidate should develop an opinion regarding whether the overseas investment is worthwhile. The recommendation itself is less important than the consideration of both qualitative and quantitative factors.
- The candidate should weigh the impact of the additional \$300M in outsourcing costs (i.e. their final recommendation should not solely be based on the expected results from the XL282 machine).
- When candidate is weighing the importance of different factors, they should demonstrate awareness of background information provided (e.g. CEO is more concerned about profits than community ties).

Risks and Next Steps

Risks

- Unpredictable changes in a foreign country:
 - Supplier change – large savings may disappear
 - Government changes – taxes and credits may shift
 - Hourly rate – less predictable rates and productivity in India
 - Weather- potential supply disruption due to weather conditions
- Quality of product
- Employees' job concerns over outsourcing, union and community backlash

Next Steps

- Perform a more detailed analysis of variable risk factors to quantify likelihood of potential disruptions
- Craft a proposal for the XL292 machine pilot that includes a more detailed cost forecast and that maintains product quality standards
- Invest time in frequent and open communication with employees to be transparent about company shifts and any effects these shifts would have on employees' jobs

Overall	Quant	Creativity
2	2	1

Case #26: New Vaccine

Case Type:
Market Entry

L.E.K. Consulting – Candidate Driven

Industry:
Healthcare

Concepts Tested:

- Pricing
- Competitive Dynamics
- Pharmaceuticals

Case #26: New Vaccine (1/6)

L.E.K. – Round 1 – Candidate Led

Quant Level – MEDIUM

Case Type

Industry

Client Type

Market Entry

Pharmaceutical /
Healthcare

Pharmaceutical

Fit Questions

1. Tell me about a time you received feedback that you did not agree with. How did you respond?
2. Tell me about a time you needed to establish credibility with a team / manager. How did you accomplish this?

Interviewer Guidance

This is a quantitative case that requires the candidate to synthesize facts presented in the discussion component with the data provided directly to them through the exhibit. Excellent candidates will be comfortable going beyond the calculations directly asked of them to generate more meaningful comparisons between different aspects of the data.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large pharmaceutical corporation, and they have developed a new vaccine that prevents low birth weight infants from contracting staph infections. They have approached us to determine the potential for this vaccine.

Additional detail that can be provided in response to candidate follow-up questions:

- When the candidate asks what is meant by the ‘potential for this vaccine,’ explain that our client is looking for clarity around revenue potential and a cost-benefit analysis of administering the vaccine.
- Our client is looking to launch this product in the United States, and is not currently concerned about international potential.

Case Development

1. Framework
2. Q&A/ Discussion
3. Quantitative Analysis
4. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #26: New Vaccine (2/6)

Framework

Market Size

- Population / demand
 - # of low birth weight infants / yr.
 - Rates of staph infections
- Other vaccines (competition); substitute products (antibiotics)

Revenue Potential

- Price point per dose of vaccine
 - Costs to administer vaccine; cost of other treatments if population is infected with staph (antibiotics)
- Distribution channels: hospitals, clinics, drug stores / pharmacies
- Product mix:
 - Can vaccine be administered with other vaccines needed by (this segment of) babies?
 - Does our client make additional vaccinations for (this segment of) babies?
- Product details: frequency of administration, efficacy, etc.

Risks

- Stage of drug development: Ready for market? In clinical trials?
- FDA approval
- Changes to target population birth weights (i.e. # of babies born with such low birth weights in the U.S. may change with further advances in nutrition and healthcare)

Transition statement: To determine revenue potential, I would like to analyze the market demand by looking at the % of new births that will be targeted by this vaccine. Then, I would like to look at the cost of administering each vaccination to determine pricing potential. Do we have any such data?

Interviewer Guidance

This is the back-and-forth section after the framework is presented. Below are several data points the interviewer should provide out loud if asked. The candidate may elect to complete market sizing first and come back to remaining questions later during the analysis.

Basic Population / Demand Information	
Babies born each year in the U.S.	5 million
Low birth weight babies born each year	10% of all babies
Basic Product Information:	
Cost of Administration	\$1,000 per dose of vaccine
Dosage	6 doses (shots) needed per child
FDA Approval	Product has been fully approved
R&D Considerations	No - not for this case
Success Rate	Assume 100% for this case
Basic Competitor Information:	
Other comparable vaccines on market	None
Alternative products	Yes – if a low birth weight baby contracts staph, the infection can be treated with antibiotics (assume these are always successful). Note: more detail in Exhibit 1.

Case #26: New Vaccine (3/6)

Interviewer Guidance

Show candidate Exhibit 1. Ask:

1). What do you think you should price the vaccine at?

A: At or above the cost of administration or \geq to \$1000 / dose (\$6K total).

2). What is the potential revenue for the client at this price point?

A: At this point, the interviewee should be able to calculate the revenue potential of this vaccine given the current size of the target population:

$$\begin{aligned} & (5M * 10\% \text{ low birth weight babies}) * (6 * \$1,000/\text{dose of vaccine}) \\ & = (500K \text{ low birth weight babies}) * (\$6,000/\text{full vaccine administration}) \\ & = \$3B \text{ in revenue potential} \end{aligned}$$

3). If the candidate tries to end the case here, push them by saying, “wow, that’s a huge number, can we go tell our client they will get \$3B per year in revenue for this vaccine? Do you think that’s realistic?”

- A strong candidate would take this into consideration automatically.

4). Encourage the candidate to consider alternative treatments / substitutes (competitor information on prev. page).

- After discussing that the antibiotics are a substitute product, candidate should ask if there is any additional information regarding this type of treatment.
- At this point the interviewer may state and ask the following:
 - The frequency of staph infections and the cost to treat them with antibiotics vary depending on the size of the baby. The client is interested in understanding the cost to vaccinate the total population of babies compared to the cost to treat the population of low birth weight babies with antibiotics.
 - First what is the cost to vaccinate the population of low birth weight babies by segment?

Interviewer Guidance

The candidate should be able to fill out the below table based on the information provided in Exhibit 1 (next page)

Segment of low birth weight babies	<1,000 grams	1,000-1,500 grams	1,500-2,500 grams
% of low birth weight babies by segment	10%	10%	80%
Frequency of staph by segment	40%	10%	2%
Cost per child for antibiotics	\$35K/child	\$25K/child	\$10K/child
Size of segment	50K babies (500K * 10%)	50K babies (500K * 10%)	400K babies (500K * 80%)
Cost to vaccinate entire segment	\$300M (50K * \$6K)	\$300M (50K * \$6K)	\$2.4B (400K * \$6K)

Case #26: New Vaccine (4/6)

Exhibit 1

Staph Infection Treatment by Baby Size

Segment of low birth weight babies	<1,000 grams	1,000- 1,500 grams	1,500- 2,500 grams
% of low birth weight babies by segment	10%	10%	80%
Frequency of staph by segment	40%	10%	2%
Cost per child for antibiotics	\$35K/child	\$25K/child	\$10K/child

Case #26: New Vaccine (5/6)

Case Development

At this point the case should turn into a cost / benefit analysis. The person doing the case may ask a lot of questions about who's paying, etc. For this case, that is not important. Inform the candidate that whichever treatment is the most cost effective will be the treatment most likely administered for each segment of the low birth weight baby population.

- The candidate should come up with the following comparison that they can use in their final recommendation.

Segment	Cost to vaccinate	Cost to treat with antibiotics	Conclusion
<1,000 grams	\$300M	\$700M (0.4*50K*35K)	It is reasonable to expect that our client will attain \$300M in revenue to cover the costs from vaccinating this segment, so vaccination would be the preferred treatment method for this segment of low birth weight babies.
1,000 - 1,500 grams	\$300M	\$125M (0.1*50K*25K)	Our client could potentially capture \$300M in revenue to cover the costs associated with treating this population segment with the vaccine. However, it is not guaranteed and the antibiotic treatment may be the best treatment method for this segment of low birth weight babies.
1,500 - 2,500 grams	\$2.4B	\$80M (0.02*400K*10K)	It is unlikely that our client will attain \$2.4B in revenue to cover the costs associated with treating this segment of low birth weight babies with the vaccine. Unless there is some sort of government mandate that vaccine be given to all low birth weight babies, it is best to treat this segment of the population with antibiotics.

Case #26: New Vaccine (6/6)

Recommendation

- The company should consider a potential revenue range of \$300M - \$600M
- This depends on their ability to successfully capture the 1,000 - 1,500 grams segment for which the vaccine is not quite as cost effective

Evaluation

- Someone who “cracks the case” will instinctively realize that it’s cheaper to vaccinate the smallest group, and that it may be more cost effective to treat the other groups with antibiotics.
- The interviewee should present / discuss the risks associated with capturing the market for each segment of low birth weight babies. But, for the final recommendation, the candidate should synthesize their thoughts into one final analysis on the revenue potential of the vaccine for the client.

Risks and Next Steps

Risks

- Inability to capture segments for which the vaccine is less cost effective
- Risk of more harm to babies if they are allowed to contract staph first and are treated with antibiotics vs. vaccination
 - Public opinion against vaccinations

Next Steps

- Develop a product marketing strategy based on different levels of revenue potential explaining the benefits of preventing staph infections for low birth weight babies by vaccination
- Analyze potential short-term and long-term health effects of a staph infection on low birth weight babies to share with doctors / parents about why vaccination has a potentially higher overall benefit vs. antibiotics

Overall	Quant	Creativity
2	2	1

Case #27: Payments Company

Case Type:
Profitability

Deloitte – Interviewer driven

Industry:
Financial Services

Concepts Tested:

- Chart clearing
- Breakeven analysis

Case #27: Payments Company (1/6)

DELOITTE – Round 1 – Interviewer Driven

Quant Level – MEDIUM

Case Type

Industry

Client Type

Profitability

Financial Services

Payments (Credit Cards)

Fit Questions

- Are you applying to all consulting firms? Why / why not?
- Why should I hire you over your peers?

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Interviewer Guidance

Read the following statement out loud to the candidate before you read the case prompt:

Our client, PayCo, is a global credit card company, with revenues over \$5B in 2010. A recent trend in the credit card industry is the use of contactless (tap and go) payments technology to make purchases at places like fast food restaurants and convenience stores.

PayCo is looking to leverage contactless payments to drive top-line growth and has identified the transit vertical (i.e. subways, trains, buses, taxis) as an opportunity for growth since this is generally a cash dominated vertical. In support of this strategy, PayCo has developed proprietary technology (called “TAP”) to process contactless transactions specifically for transit applications, and is looking to commercialize this technology. A key challenge is whether transit authorities will implement this new technology or stay with current systems for fare collection.

Deloitte Consulting has been engaged to size the overall transit market globally, prioritize potential opportunities, develop a financial business case, and develop a go-to-market strategy.

Case Prompt

Your role on the PayCo engagement is to develop the business case for commercializing PayCo’s contactless technology.

- Which market and transit vertical should PayCo target as a first priority?
- What is the profitability of the “TAP” technology? Specifically, will PayCo breakeven on commercializing “TAP” in less than 5 years?
- Would you recommend that the client pursue the commercialization of this technology?

Case Questions:

This case is driven by the above series of questions to be asked of the candidate. **Do not pursue all questions with the candidate up front, as each question is meant to be a mini-case.** These questions are provided on subsequent pages in the order that they should be asked of the candidate. A traditional framework will not be needed for this case, but the candidate should remain structured in their thinking and in their responses throughout the case.

Case Development

- Framework
- Questions and Financial Analysis
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #27: Payments Company (2/6)

Exhibit 1

Country Data¹

	US	England	Japan
Population (MM)	313	63	126
Population Growth (%)	0.96%	0.56%	-0.28%
GDP (\$Tr)	\$14.7	\$2.2	\$4.3
GDP Growth (%)	2.7%	1.6%	3.0%
GDP per Capita (USD)	\$47,400	\$35,100	\$34,200

Subway System Data

	NYC	London	Tokyo
Daily Passengers (MM)	11.5	8.5	14.3
Annual Fare Collection (\$B)	\$12	\$13	\$45
Timing for new system	2012	2012	2015
Probability of winning contract ²	90%	70%	20%

Buses Data

	NYC	London	Tokyo
Daily Passengers (MM)	3.0	4.5	5.8
Annual Fare Collection (\$B)	\$2.8	\$5.5	\$4.4
Timing for new system	2013	2013	2015
Probability of winning contract ²	90%	70%	20%

Notes:

¹ Data from CIA World Factbook, extracted April 2011. GDP figures at purchasing power parity

² Probability of winning contract is based on estimates from the PayCo Business Development team, and can be used to determine the potential revenue opportunity for PayCo

Case #27: Payments Company (3/6)

Question 1

1. Which market and transit vertical should PayCo target as a first priority?

Note to interviewer: Provide Exhibit 1 to the candidate. If the candidate only provides a quantitative answer, prompt them for additional qualitative considerations.

A good answer will draw the following conclusions from the data provided:

- The answer we're looking for is New York Subways.
- Given the subway and bus detail, the candidate should quickly recognize that the country data is too high-level.
- A quick comparison of subways and buses should rule out buses without any calculations.
- Even though Tokyo subways is the largest market, it actually has the smallest potential due to a low probability of winning a contract.
- New York has the highest potential revenue opportunity for PayCo based on the calculation below:

City	(Fare Collection)	*	(Prob of winning contract)	= PayCo Market Opportunity
New York:	\$12MM	*	90%	= \$10.8MM
London:	\$13MM	*	70%	= \$ 9.1MM
Tokyo:	\$45MM	*	20%	= \$ 9.0MM

A better answer will include the items above and address additional elements around the data. Some findings include:

- Although Tokyo looks like a huge opportunity initially, they are not looking for a new system until 2015, while NYC and London are ready earlier (2012).
- The candidate may also raise the sensitivity of this assessment on the sales probability data point and point out how even a 5% increase for Tokyo would give it the highest value.

A great answer will include the items above and also raise additional considerations beyond the data, including:

- How strong is PayCo's brand in each city?
- Is one city more strategically important to PayCo?
- Are there differences in cost or difficulty in going after these markets?
- Do PayCo's capabilities make one option more likely to succeed than another?

Case #27: Payments Company (4/6)

Exhibit 2

NYC Subway Forecast Data

	2011	2012	2013	2014	2015
"TAP" Transactions (MM)	1,500	2,000	2,500	3,000	3,000
"TAP" Fare Collection (\$MM)	\$3,750	\$5,000	\$6,250	\$7,500	\$7,500

PayCo "TAP" Assumptions

Revenue Assumptions		Cost Assumptions	
Annual License Fee (\$000s)	\$250	Past Investment in "TAP" Development (\$000s)	\$1,000
"TAP" Processing Fee *	0.20%	Cost per transaction	\$0.005

* Processing Fee applies to dollar value of Fare Collections

Cost Projections (in \$000s)	2011	2012	2013	2014	2015
Advertising and Promotion	\$500	\$250	\$0	\$0	\$0
SG&A	\$50	\$50	\$50	\$50	\$50

Case #27: Payments Company (5/6)

Question 2

2. What is the profitability of the “TAP” technology [for NYC]? Specifically, will PayCo break even on commercializing “TAP” in less than 5 years?

Note to interviewer: Provide Exhibit 2 to the candidate.

A good answer would be:

- Yes, PayCo will break even in 4 years and will achieve a total profit (excluding time value of money) of \$250,000 in 5 years.
 - A key insight is that the past investment in developing the “TAP” technology is a sunk cost in making the decision on commercializing the technology and should not be incorporated into the analysis.
 - Here is a summary of revenues and costs calculations as a guide for the interviewer:
 - Revenue = (TAP Fare Collection * TAP Processing Fee) + Annual License Fee
 - Costs = (# of transactions * cost per transaction) + Advertising and Promotion + SG&A

A great answer would:

- Be very well structured with clear calculations laid out in a grid (like a spreadsheet or income statement / P & L statement).
- Realize the revenue and the cost for each year are the same after the initial calculation (see below).
- Comfortably handle the variety of units (revenues in \$MMs, costs in \$000s, percentages).
- Acknowledge time value of money and suggest calculating an NPV to evaluate the investment.

	2011	2012	2013	2014	2015
Total Fares Collected (MM)	\$3,750	\$5,000	\$6,250	\$7,500	\$7,500
Processing fee	0.20%	0.20%	0.20%	0.20%	0.20%
Annual Licensing Fee (MM)	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25
Total Revenue (MM)	\$7.75	\$10.25	\$12.75	\$15.25	\$15.25
# of Transactions	1,500	2,000	2,500	3,000	3,000
Cost per Transaction	\$0.005	\$0.005	\$0.005	\$0.005	\$0.005
Advertising and Promotion (MM)	\$0.50	\$0.25	\$0.00	\$0.00	\$0.00
SG&A (MM)	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Total Transaction Costs (MM)	\$8.05	\$10.30	\$12.55	\$15.05	\$15.05
Profit (MM)	-\$0.30	-\$0.05	\$0.20	\$0.20	\$0.20

Evaluation

Case #27: Payments Company (6/6)

3. *Would you recommend that the client pursue the commercialization of this technology?*

- PayCo should pursue the commercialization of this technology
 - Based on the cost/benefit analysis, commercializing “TAP” is estimated to generate \$250,000 in profit over five years and meets the criteria for breakeven

Recommendation

A good answer will include:

- Based on the cost / benefit analysis, commercializing “TAP” is estimated to generate \$250,000 in profit over 5 years and meets the client’s criteria for breakeven.

A great answer would recognize the above, but also include:

- Identification of risks in the assumptions, such as:
 - The 90% sales probability assumption for NYC.
 - Revenue or cost drivers.
- Identification of sensitivity in calculations, such as:
 - Forecasted transactions and fare revenue.
 - Cost forecasts, particularly advertising and promotion.
- Qualitative benefits of pursuing commercialization:
 - Positive impact on brand and market share.
 - Becoming market leader and growing to other cities.
- Competitive Response:
 - How might PayCo’s competitors respond to its launch of this technology?
- Defining next steps, such as further analysis or a high-level implementation plan.

Risks and Next Steps

Risks

- 90% sales probability assumption that PayCo would win the for NYC contract
- Reasonableness of the revenue and cost assumptions:
 - Forecasts of transaction amount and fare revenue
 - Advertising and promotion costs

Next Steps

- Analyze potential competitor response and / or bid for NYC contract
- Perform further analysis on the revenue and cost assumptions / forecasts and develop a high-level implementation plan

Overall	Quant	Creativity
3	3	2

Case #28: Pharmaceutical Rare Disease

Case Type:
Growth Strategy

BCG – Candidate Driven

Industry:
Healthcare

Concepts Tested:

- Net present value
- Chart clearing
- Math structuring
- Pharmaceuticals

Case #28: Pharmaceutical Rare Disease (1/5)

BCG – Round 1 – Candidate-led

Quant Level – MEDIUM

Case Type

Industry

Client Type

Growth strategy

Pharmaceutical /
Healthcare

Pharma company

Fit Questions

1. Tell me a story that explains your background, and why you're here today (why consulting, why this firm, why location).
2. What is your proudest accomplishment (not necessarily a professional achievement)?

Interviewer Guidance

This case is a NPV investment evaluation go / no-go.

You should read the case prompt to the candidate and show them the data sheet on the next page as they request each piece of information.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large pharmaceutical company with a strong business in "Rare Disease" (RD). Rare diseases are conditions that affect fewer than 200,000 people in the US. Historically, pharmaceutical companies have not invested significantly in Rare Disease , because it has not been cost effective to conduct research for such small populations.

Due to the fall off in the number of pharmaceutical blockbusters and improved regulation to make R&D cheaper for Rare Disease, pharmaceutical companies have begun to invest more in Rare Disease R&D over the last few years. Our client has hired BCG because it would like to grow its Rare Disease business.

How can the client double its Rare Disease business in 5 years?

Case Development

1. Framework
2. Revenue Analysis
3. Cost analysis
4. NPV calculation and recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #28: Pharmaceutical Rare Disease (2/5)

Framework

	Existing RD Drug Market	New RD Drug Market
Existing drugs/ patents	Increase Penetration <ul style="list-style-type: none"> - Frequency of usage - Increase penetration on market - Acquisition 	New Market Entry <ul style="list-style-type: none"> - Can drugs be used in other diseases? - Combinations with other drugs? - Expansion to other countries/regions or capturing underserved region in the US?
New drugs	Product Development <ul style="list-style-type: none"> - Small improvements in current drugs -> increase price point? 	Diversification <ul style="list-style-type: none"> - New pipeline of R&D – when would drugs be ready to go-to-market? (respecting time-frame of 5 years)

Transition statement: I would like to first consider the client's position in the market by learning more about our client's current R & D and drugs on the market. Do we have any similar information?

Interviewer Guidance

- Candidate should ask what growth means: revenues, profits, volume, market share, customer base, etc. or lay out options between those alternatives. The interviewer should respond by saying that the client is interested in all potential options for growth.
 - Candidate should structure the growth opportunities considering current assets/drugs/patents + new opportunities
 - Note: The suggested framework is different from the traditional market and profitability framework as it considers all options through an existing v. new lens and structure.
 - Even if the candidate comes up with a different framework, it should consider the expansion on current drugs and the new drugs under development for other rare diseases. If not, ask the candidate what other factors should be considered until they come to this point.
- Candidate should also talk about cross-functional issues, like regulations or reimbursement of these drugs by health insurers.
- If necessary, after discussion of the framework, ask the candidate one of the questions below to get them started on further exploration of the issue.
 - *How would you approach our client's question on growing its Rare Disease business?*
 - *Where would you like to start?*
- The candidate should then ask for company information for analysis. **Show them Exhibit 1.**

Case #28: Pharmaceutical Rare Disease (3/5)

Exhibit 1

Assets in research and development

Phase	# Assets	Time to market (years)	Attrition (% expected to be approved to reach the market)	Peak revenue (\$M)
Research	20	6	10%	500
Phase I	5	4	20%	500
Phase II	3	3	40%	500
Phase III	1	2	60%	500

Revenue by years on market

Year on the market	Revenue (% of peak revenue)
1st	20%
2nd	40%
3rd	60%
4th	80%
5th	100%

Case #28: Pharmaceutical Rare Disease (4/5)

Interviewer Guidance

- After showing Exhibit 1 to the candidate, ask them: *based on the data, how large will the client's Rare Disease business be in 5 years?*
- If necessary, ask, *what is the shortfall to the client's goal of doubling their business?*
- Then ask, *what does the client need to do to double the Rare Disease revenues in 5 years?* If candidates discusses acquisitions, ask, *who should be acquired? How many assets will we need to buy?*
- Information to be provided upon request:
 - Our client is an industry leader with a track record of success. Its existing business is \$2.5B, expected to grow at 5% per year.
 - Rare disease market is \$30B and is as profitable as "Big Pharma".
 - While research is relatively expensive, the government provides tax credits for drugs designated to treat rare diseases.
 - Additionally, prices tend to be higher to make up for the upfront research investment. It's also growing faster than Big Pharma.
 - There are many small bio-techs that are attractive targets and there are also other big pharmaceutical companies that have rare disease divisions / assets. Assume each company has approximately \$500M in revenues.

Math Calculation

Growth from existing assets: assumes linear growth – do not ask to calculate compounding growth.

- Current baseline: \$2.5B, growing at 5% for 5 years = $\$2.5B \times 5\% \times 5$
= \$625M

Growth from pipeline:

Phase	# of assets	Attrition	Peak Rev	% of peak rev	Total
I	5	x 20%	x \$500M	x 20% - 1 st year	= \$100M
II	3	x 40%	x \$500M	x 40% - 2 nd year	= \$240M
III	1	x 60%	x \$500M	x 60% - 3 rd year	= \$180M
					= \$520M

Shortfall:

- Growth target: \$2.5B - to double the business
- Internal growth is \$625M + \$520M = \$1.145M, need ~\$1.4B more
- If each asset is \$500M, then the client needs to buy 3 peak revenue assets or more (if they are in R&D) to double business in 5 years.

Portfolio in 5 years:

- \$5B portfolio with:
 - \$3.1B (~60%): from current baseline
 - \$520M (~10%): from pipeline
 - \$1.4B (~30%): acquisitions

Case #28: Pharmaceutical Rare Disease (5/5)

Recommendation

Recommendation

In order to double the current revenue of \$2.5B, client will need to acquire ~3 "peak revenue" assets to close the gap between your goal of \$2.5B and the \$1.1B their portfolio will generate organically

- Current pipeline will provide \$3.1B in revenue, assuming 5% growth
- New research will contribute with \$520M in revenue, considering Phases I to III
- Acquisition of 3 players (average revenue of \$500M), would compose additional needed revenue of \$1.4B

Risks

- Difficulty in acquiring businesses / market value
- Delays in R&D and testing phases may delay revenues from new products
- Regulation

Next Steps

- Perform due diligence of possible targets to evaluate best options
- Define internal mechanisms to control track of product launches to guarantee timing
- Work on FDA approval and obtain patents for drugs in pipeline and on market to guarantee projected revenues

Interviewer Guidance

- After completing the analysis, ask the candidate to provide a recommendation on what is necessary for the company to achieve its desired market growth. The main question in this case is not whether the growth is realistic or feasible, but rather, what should be done to achieve the client's target.
- In the recommendation, the candidate should focus on addressing the original question and on providing the results from the analysis.

Overall	Quant	Creativity
3	2	3

Case #29: Project Gargoyle

Case Type:

Investment Decision

Bain & Company – Candidate Driven

Industry:

Hair Care Products

Concepts Tested:

- Breakeven analysis
- Chart clearing

Case #29: Project Gargoyle (1/9)

BAIN & COMPANY – Round 1 – Candidate-led

Quant Level – MEDIUM

Case Type

Industry

Client Type

Investment Decision

Hair Care Products

PE fund

Fit Questions

- What are your major strengths?
- Tell me about a time you had to deal with a challenging situation.

Interviewer Guidance

This case is a investment go / no-go evaluation.
You should read the case prompt to the candidate and show them the data sheet on the next page as they request each piece of information.

Information to be provided only upon request:

- Gargoyle has grown quickly, especially during most recent period.
- EBITDA margin declined and EBITDA \$ were flat.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your client, a private equity fund, is evaluating the potential acquisition of Gargoyle. Gargoyle is a premium, fashion forward hair care products brand sold in the U.S. Gargoyle has grown quickly over the past 5 years and management is forecasting strong top-line growth.

Your client has little experience in the industry and needs to quickly evaluate the opportunity. Your client would like to grow cash flow (EBITDA) each year during the investment horizon with minimal capital expenditure.

How should you evaluate the opportunity? Should the fund invest in Gargoyle?

Case Development

- Framework
- Revenue Analysis
- Cost analysis
- Break-even calculation
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #29: Project Gargoyle (2/9)

Framework

Working hypothesis: The fund should invest in Gargoyle; but, I would like to test this by first looking at the financials of the opportunity and then by determining whether the market is attractive.

•Hair Care Market – Is the market attractive?

- Size of the market
- Market is Growing / Shrinking in the US? (historical + forecasted data)
- Competitive landscape (market is consolidated or fragmented)
- Substitutes (professional products, natural products)

•Gargoyle Specifics

- % of share – opportunity to capture more?
- Segments targeted today – opportunity to expand to other segments?
- Channels used
- Customer loyalty
- Leadership team and cultural fit

•Gargoyle Profitability

- Revenue
 - # Products sold
 - Price per unit
 - Product mix
- Cost
 - Variable cost – cost per unit of product
 - Chemical products
 - Bottles
 - Packaging
 - Fixed costs – SG&A, distribution, insurance
- Investment
 - Money for acquisition is available?
 - Payback or break-even requests?
 - Cost of capital – discount factor
 - Is the best use of capital?

Determine best
evaluation tool for
client:

- NPV
- Payback period
- Breakeven

•Client requests – PE Portfolio

- Does it make sense to the fund?
- Synergy with other current investments?

Interviewer Guidance

- Profitable growth over the investment horizon is the key factor in determining attractiveness of the opportunity.
 - A profit tree framework should be included as a key way to understand the root cause of margin decline (EBITDA decline, flat \$).
- The framework utilized should also assess attractiveness of market and company as well as an assessment of company profit.
 - Candidate should understand these points first to better understand how to calculate profitability of the opportunity.

Case #29: Project Gargoyle (3/9)

Interviewer Guidance

Exhibit 1: Historical revenues

After laying out the framework, the candidate should start exploring the company's financials, starting with revenues. If not, guide the candidate to that; then, **show Exhibit 1** and ask:

What observations can you make about Gargoyle's growth?

Candidate should highlight:

- Gargoyle has grown quickly, especially during the most recent period.
- EBITDA has grown more than revenues through 2009, but has deaccelerated since.
- Last year EBITDA margin declined and EBITDA \$ were flat.

Exhibit 2: Hair product market segmentation by channel

If the candidate asks for company information first, **jump to Exhibit 3 and then come back to Exhibit 2**. Otherwise, candidate should want to understand the reasons for EBITDA decrease and take a look at the market segmentation. If necessary, push candidate to evaluate the market by asking:

What would you expect to see in the hair product market? What growth would you expect? What channels? What does the market analysis tell you? Show Exhibit 2.

- Candidate should make logical points about growth (e.g., growth is roughly aligned with population growth) and think through channels.
- Market growth is not attractive. Does Gargoyle play in high growth areas?

Exhibit 3: Gargoyle sales by channel

After evaluating the market, candidate should ask for Gargoyle's revenue breakdown by channel. **Show Exhibit 3**. If necessary, push candidate to find reason of EBITDA decrease in 2010, by asking them:

What drove margin decline in '10?

Candidate should highlight:

- Gargoyle began distributing to drug stores in 2010.
- All growth came from this segment (10M), since, as we saw in Exhibit 2, the salons channel is not growing.

Interviewer Guidance (cont'd)

Exhibit 4: Cost to serve drugstores

Ask the candidate, *if we were to invest in the drugstore channel, what is the breakeven quantity for drugstores?*

Candidate should ask for cost information per unit. **Show Exhibit 4.**

Candidate should then proceed with a breakeven calculation:

$\$5\text{M Fixed Cost} / \$0.50 \text{ margin per unit} = 10\text{M units to breakeven}$

$10\text{M units for breakeven} \times \$5/\text{unit} = \$50\text{M breakeven revenue}$

Exhibit 5: Salon interviews – Brand perception comparison

After observing that the drugstore business also doesn't seem attractive. The candidate should be inclined to evaluate if there is still some value in the Gargoyle brand for its consumers, for example by assessing customer satisfaction. **Show candidate Exhibit 5.**

If the candidate goes in a different direction, lead them toward this direction by asking: *what other factors can be valuable in the Gargoyle brand?*

- If you need to ask this, evaluate how structured the candidate's brainstorming is.

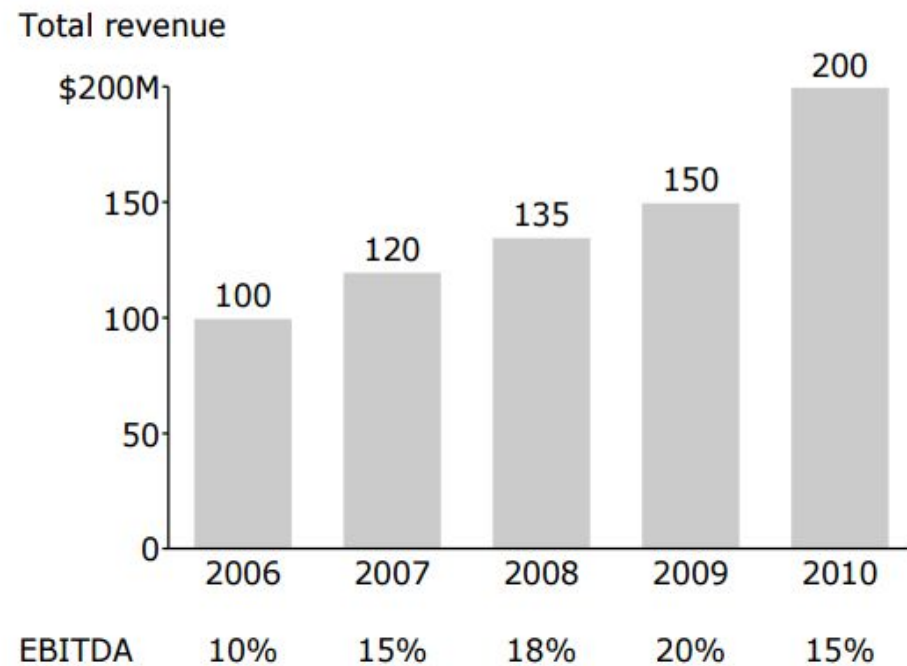
From the graph analysis, candidate should highlight:

- Salon/stylist as key customers/influencers, but Gargoyles product does not perform well with stylists.
- Exclusive distribution is important to salons (selling to drug stores is likely to erode core customer base).
- Gargoyle is underperforming relative to peers on customers' needs.

Case #29: Project Gargoyle (4/9)

Exhibit 1

Gargoyle historical performance

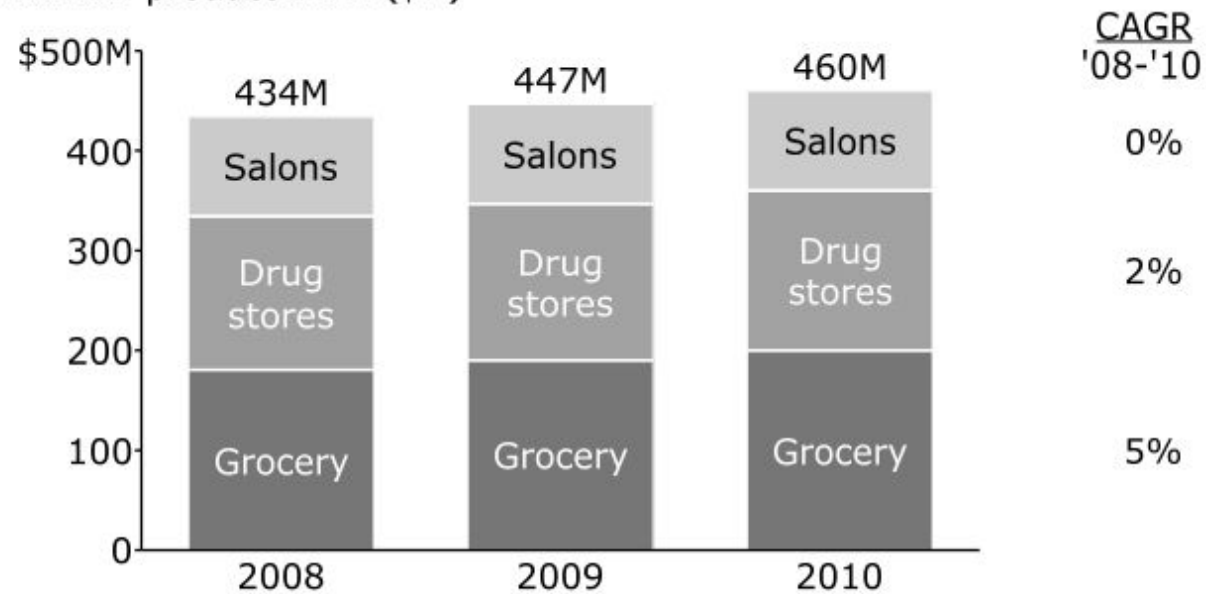


Case #29: Project Gargoyle (5/9)

Exhibit 2

Hair product market

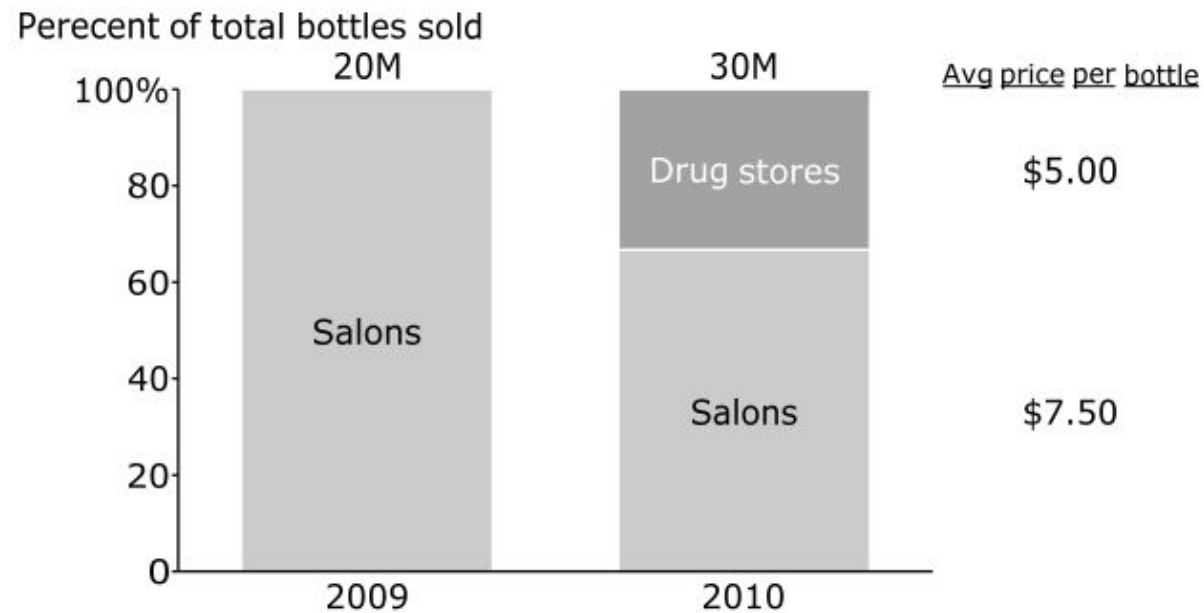
Total hair product sales (\$M)



Case #29: Project Gargoyle (6/9)

Exhibit 3

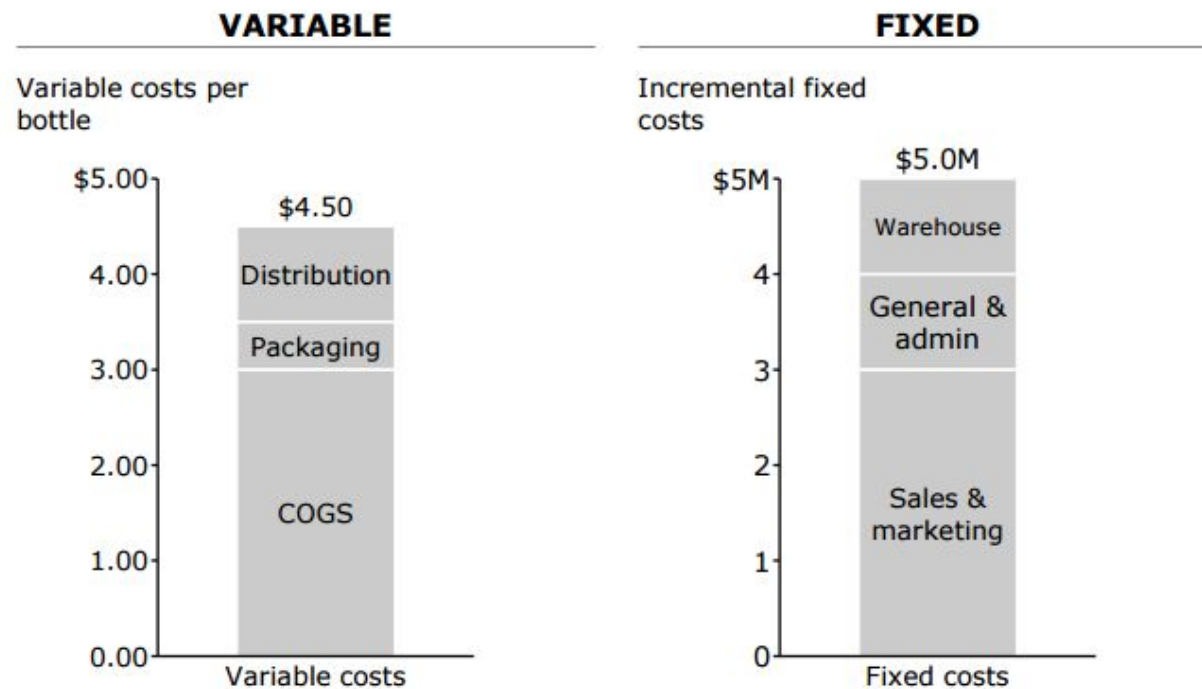
Gargoyle sales by distribution channel



Case #29: Project Gargoyle (7/9)

Exhibit 4

Cost to serve drug stores

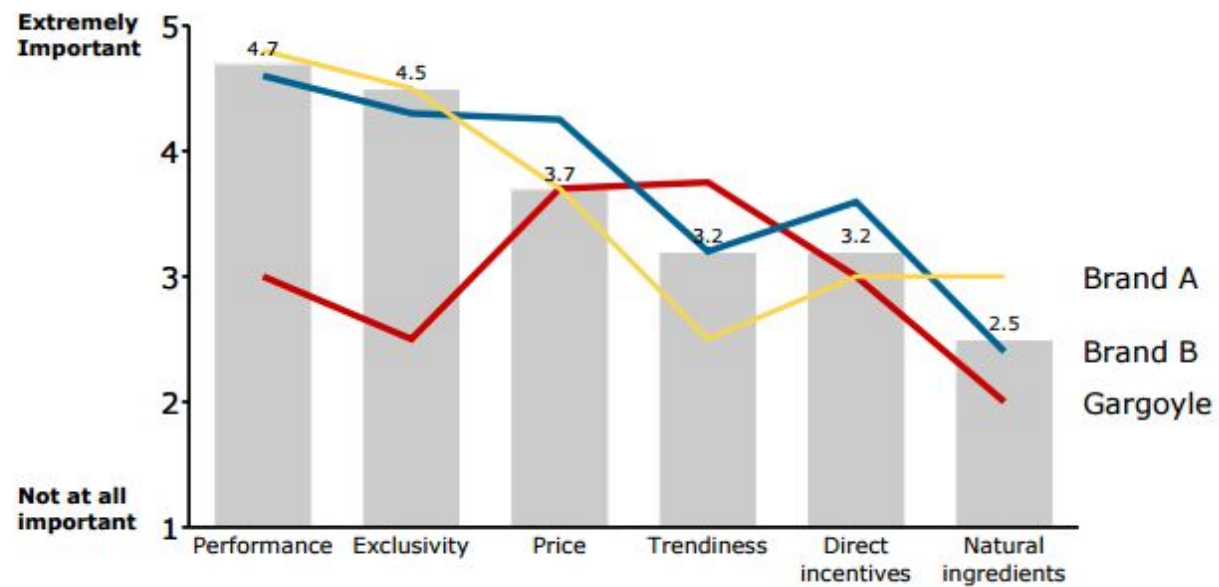


Case #29: Project Gargoyle (8/9)

Exhibit 5

Salon interviews

Overall importance/ performance



Case #29: Project Gargoyle (9/9)

Recommendation

Recommendation

Client should NOT invest in Gargoyle

- Market growth of the industry is not attractive
 - Majority of sales are in the salon market, which is a segment that is not growing and in which Gargoyle has been underperforming its competitors
 - Expansion to the drug store channel is not profitable (breakeven is met); is the underlying reason EBITDA margins have deteriorated
- Customer research reveals that Gargoyle does not perform well against most important criteria

Risks

- Any further investment in the drug store market could harm key customer base (salons)
- We might be missing an investment opportunity in this market
- For competitive reasons, it can still make sense to the fund

Next Steps

- Strengthen relationship with salons to improve perception of performance and exclusivity of Gargoyle brand
- Evaluate possibility of acquisition of other competitors in this market
- Close the loop with fund's management

Interviewer Guidance

- After the analysis, ask the candidate for their recommendation.
- The candidate should recommend that the PE fund NOT invest in Gargoyle.
 - Interviewee should identify that the client wants to ensure profitable growth over the investment horizon.
 - Gargoyle entered lower margin drug store channel in 2010, causing EBITDA margins to decline.
- A wrap-up answer will consider detrimental impact on core customer (salons) by selling product through alternative mass distribution channels (brand perception, pricing, exclusivity, etc.). Also, candidate should consider alternative growth options, but ultimately conclude these are risky and expensive.

Overall	Quant	Creativity
3	3	3

Case #30: PyeongChang Winter Olympics

Case Type:
Investment Decision

McKinsey & Co – Interviewer Driven

Industry:
Tech, Media & Entertainment

Concepts Tested:

- Math structuring
- Net present value
- Brainstorming

Case #30: PyeongChang Winter Olympics (1/4)

McKINSEY & CO – Round 1 – Interviewer Led

Quant Level – HEAVY

Case Type	Industry	Client Type
Investment Decision	Tech, Media, & Telecom	TV Network

Fit Questions

1. Tell me about a time you had to deal with a conflict with a group or with your manager.
2. Tell me about a time you had to deal with a difficult team member or overcome a coworker who was blocking progress.

Interviewer Guidance

Drive case to revenues first and read quantitative data beforehand.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

In the year 2012, we have been retained by a television network that is trying to decide how much to bid for the rights to broadcast the 2018 Winter Olympic Games in PyeongChang, South Korea.

How much should they bid?

Case Development

1. Framework
2. Revenue Analysis
3. Cost analysis
4. NPV calculation and recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #30: PyeongChang Winter Olympics (2/4)

Framework

Working Hypothesis: The bid price will be determined by the overall profitability of broadcasting the Olympics. Therefore, I would like to first start with potential ad revenue generated from televising this event.

- Broadcasting Market
 - Olympics Viewers
 - Size for this particular event
 - Trends on Olympic viewership (growing / shrinking / method of viewing (ex. tablets))
 - Population segments – are viewers a compelling population for advertisers?
 - Competition
 - Other networks / substitutes (e.g. streaming online)
- Amount to bid – determined by profitability
 - Revenue
 - Advertising
 - Merchandising
 - License non-US networks to use our feed
 - Cost
 - Fixed costs – building on-site studio, paying talent, broadcast infrastructure
 - Variable costs – hotels, insurance
 - Other bidding costs
 - Opportunity cost – what else could we be showing?
 - Discounting – cash flows will be in the future; what is client's discount rate?
- Television Network
 - Fit – are we the right station? Are we ESPN, ABC or HGTV?
 - Experience – past sports or Olympic broadcasting experience?

Interviewer Guidance

- This is a profitability case so the framework should include internal and external factors driving profitability including the following:
 - Assessment of the current market and competitive landscape.
 - Revenues and costs: please notice that the case is focused on the revenue side. It is fine to ask the candidate about costs as a brainstorming exercise, but make sure the candidate deep dives into revenues.
 - Candidate should acknowledge that the amount to bid is limited by the profits that could be generated from the broadcasting.

Case Development

- Our client is a broadcast television network that makes money through advertising only, not subscriptions.

Case #30: PyeongChang Winter Olympics (3/4)

Key Data

Market research has shown that consumers can take no more than 10 minutes of ads per hour of television; they will stop watching if ad time is higher.

Winter Olympics Schedule	
Duration	16 days
Open Ceremony	First day (Friday)
Competitions	Held in next 14 days
Closing Ceremony	Last day (Saturday)
Broadcast	
Opening Ceremony	8 – 11pm
Weekdays coverage	9am – 12pm, 2 – 5pm, 7 – 11pm (per day)
Weekend coverage	11am – 9pm (per day)
Closing Ceremony	8 – 11pm
Advertising	
Prime Time	Mon to Fri 7 – 11pm; Sat – Sun all day, Opening and Closing ceremonies
Non Prime Time	Mon to Fri all other times
Adv. slot duration	30 seconds
Prime Time adv. slot cost	\$400,000
Non Prime Time adv. slot cost	\$200,000

Interviewer Guidance

- All data and facts to be provided upon candidate's request. Do not show the candidate the table. Rather, expect the candidate to organize this information appropriately as this case provides an opportunity for the candidate to practice structuring their math.
- After leading the candidate to focus on ad revenue, they should calculate total ad revenue generated from the Olympic event (\$928M). Per hour revenue generated is \$4M (\$200k per slot x 20 slots per hour) in non-prime time and \$8M in prime time (\$400k per slot x 20 slots per hour).

Category	Calculation	Total
Weekday (non prime)	10 days X 6 hours X \$4M	\$240M
Weekday (Prime)	10 days X 4 hours X \$8M	\$320M
Weekend (Prime)	4 days X 10 hours X \$8M	\$320M
Opening/Closing	2 events X 3 hours X \$8M	\$48M
Total		\$928M

Case #30: PyeongChang Winter Olympics (4/4)

Brainstorm

- After calculating revenue, have the candidate brainstorm costs. An internal/external framework could be appropriate here.

	FC	VC
Internal	<ul style="list-style-type: none"> • Buildings on-site • Paying network talent • Broadcast infrastructure 	<ul style="list-style-type: none"> • Contract employees (additional on-site labor) • Marketing to viewers about Olympics and events
External	<ul style="list-style-type: none"> • Rental property on-site • Rental equipment on-site 	<ul style="list-style-type: none"> • Hotels • Insurance • Utilities on-site

- There is no breakdown here. Once candidate completes brainstorm, state that the total accounting cost is \$428M.
- This yields an even accounting profit of \$500M (\$928M-\$428M). Many candidates will think the case is over; however, we still need to worry about opportunity cost.
- If candidate doesn't mention opportunity cost, remind them. Here, opportunity cost is \$1M per hour of displaced programming (\$1M X 146 hours), or \$146M. Economic profit is \$354M (\$500M-\$146M).
- Again, many candidates will think final answer is \$354M. However, these cash flows are 6 yrs. in future (case is set in 2012) and need to be discounted. Discount rate is 12%; through rule of 72 ($72/12=6$ yrs. to double), you end up dividing 2018 profit in half. Therefore, in 2012 dollars, profit = \$177M.
- Candidate should recognize that the max bid the client should make based on predicted advertising revenue is \$177M.

Recommendation

- Enter a bid of \$177M
 - Expected additional revenue opportunities from being a part of the Olympics might warrant a higher bid as you may be able to expand your viewership from this opportunity, thereby enabling you to charge higher advertising fees
 - For excellent performance, candidate should mention that client can also prevent a competitor from having an event that is hard to counterprogram against

Risks and Next Steps

Risks

- Other competitors might enter the bid
- Fit of airing the Olympics with network brand and programming
- New technologies disrupting the industry might strongly change the viewership base (tablets, smartphones) and prevent client from recognizing predicted ad revenue as advertisers will shift their medium to match consumer viewership

Next Steps

- Assess whether or not competitors are planning to enter the bid and determine what resulting bid strategy should
- Complete internal assessment to ensure that network fit matches the Olympic programming
- Do a customer survey to understand the potential disruption caused by new technologies

Overall	Quant	Creativity
3	2	3

Case #31: Quahog Public Schools

Case Type:

Non-traditional

McKinsey & Co – Interviewer Driven

Industry:

Non-profit/ Education

Concepts Tested:

- Chart clearing
- Structured brainstorming

Case #31: Quahog Public Schools (1/5)

McKINSEY & CO – Round 1 – Interviewer Led

Quant Level – MEDIUM

Case Type

Industry

Client Type

Non-traditional
Problem

Non-profit/
Education

School System

Fit Questions

1. Tell me about a time you worked on a project with a team and had to convince your team member(s) to go along with your idea.
2. Tell me about a time you disagreed with one of your work colleagues and how you handled the situation.

Interviewer Guidance

This case is a non-profit case, which pushes candidates to think outside of the box. It is meant to assess their creativity and ability to adapt their thinking to new problems or contexts. The case calls for a lot of brainstorming from the candidate, but is ultimately driven by the interviewer asking a series of questions to get to the final recommendation.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is the superintendent of a system of schools in Quahog, Rhode Island. He is concerned because the performance of students from these schools in standardized tests has been repeatedly subpar. He has asked us to help him figure out what to do about it.

Additional clarifying information (provide only if asked):

Q: What is a “system of schools”?

A: For example, Chicago Public Schools

Q: What are standardized tests?

A: Exams that occur at a certain point of the school year for a particular grade level and that are developed and organized by a school district, state, or other large education agency (ex. end of course exams, SAT).

Q: What is subpar performance?

A: On average, a student from Quahog Schools performs below exam mean as compared to national student scores on the same assessment.

Case Development

1. Framework & Exhibit 1
2. Specific Issue Brainstorming
3. Quantitative Problem-solving
4. Final Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation

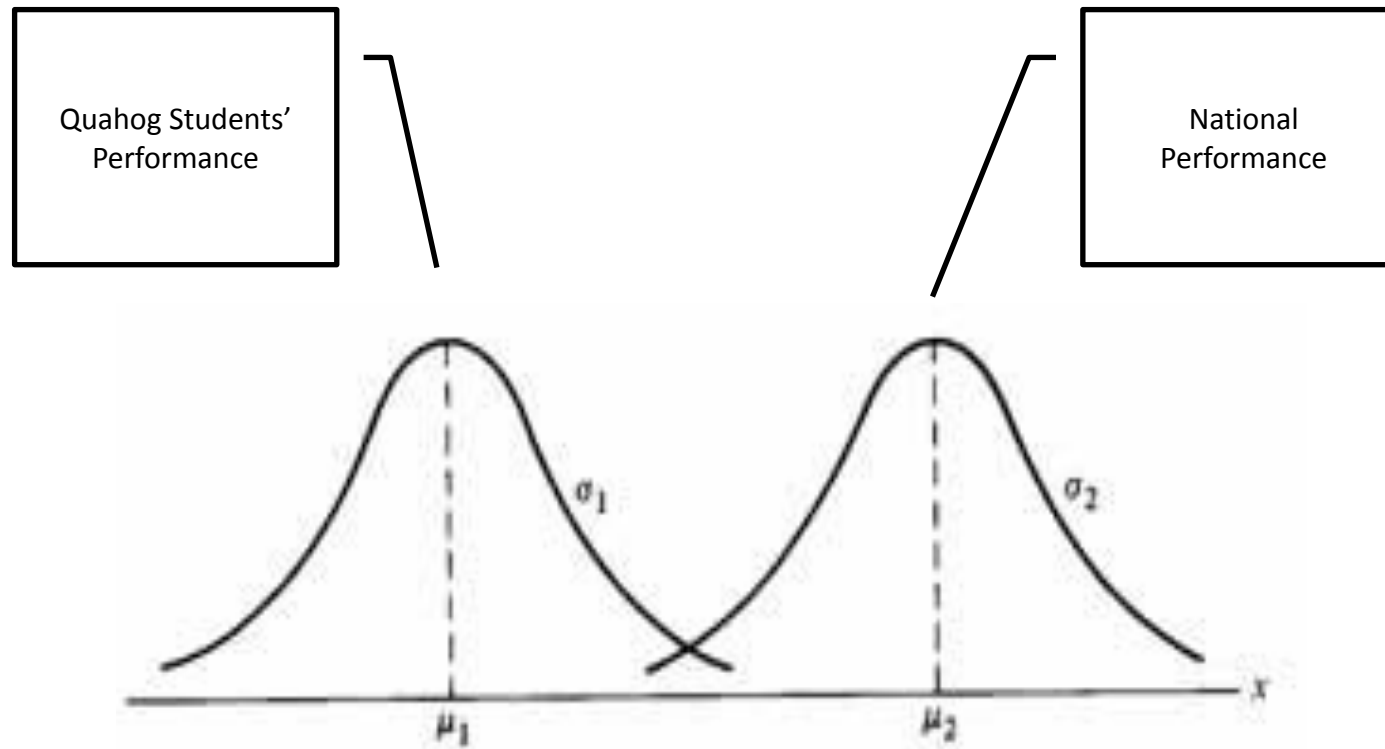


Show Exhibit 1. Candidate should then develop their framework.

Case #31: Quahog Public Schools (2/5)

Exhibit 1

Quahog Student Performance Relative to National Performance



Framework

Case #31: Quahog Public Schools (3/5)

• Students

- Attendance rates (e.g., unsafe neighborhoods □ low attendance or support □ poor results)
- Demographics (e.g., students from low socioeconomic background □ work or take care of family after school □ low attention to studies; race / ethnicity; high need populations such as Special Education or English Language Learners)

• Teachers

- Recruitment standards (i.e., do we hire untrained teachers?)
- Training programs (i.e., do we keep our teachers current in pedagogical skills?)
- Retention rates, especially of high quality teachers

• Resources

- Syllabus or curriculum (i.e., are we teaching appropriate material at the right level of rigor?)
- Access to facilities / resources (e.g. library, technology, science laboratories, art, music, gym, school nurse)
- Book, teaching material, and supplemental supply availability

• Teaching and learning environment

- School safety
- Administrative support
- Aesthetically supportive learning environment (clean, welcoming, windows, air conditioning)

Transition Statement: Since the school district is looking to improve standardized test scores, I would like to first determine whether all teachers and students have the necessary resources. It would be great if we had information on current resource distribution by school or grade level.

Case Development

A good framework would consider three or four dimensions, such as those listed on the left.

Allow the candidate to discuss their framework. Then, provide the following information when asked:

- In response to the candidate's questions about teachers or the teaching environment, inform them that it is on par with other schools.
- If the candidate asks about student demographics, inform them that students are from low to middle household income categories.
- If the candidate has not brought out the issue of 'books', inform them that the schools provide books to the students.

Interviewer Guidance

After the discussion, guide the candidate toward 'books' as a major issue. Tell the candidate:

Early findings suggest the shortage of books has been a major factor affecting student performance at Quahog. How do you think we can address this?

Encourage the candidate to brainstorm and think from multiple perspectives. This is a classic "what else?" situation where you should probe for more and more ideas. A good candidate will bucket his/her thinking into three or so groups. See the following page for a potential answer.

Case #31: Quahog Public Schools (4/5)

Brainstorm Response

- Raise money to buy books
 - Fundraising (grants / donations)
 - Price discrimination to students (students who can pay, buy books through school)
- Arrange for new books without additional money
 - Gifts (in-kind donations)
 - Borrow from other school systems
 - Partner with Amazon / retailers for used books as a philanthropy measure on their part
- Manage with current number of books in system
 - Coordinated book sharing system
 - Scan / copy books

Follow-Up Question

After the brainstorm discussion, state and ask the following:

An immediate area of concern is Grade 6 math and science books. We've identified a shortage of 8,000 such books. Sixty percent of these books are math books and the rest are science books. The math books are available on Amazon, but the science ones are not. By partnering with Amazon, we can reduce the shortage of math books by 70%. Independently, by coordinated book sharing, we can reduce the shortage of science books by 20%.

What is the total impact of these plans?

Calculations

This is how the candidate could solve the follow-up question:

Shortage:

Total shortage = 8,000 books

Math shortage = $60\% \times 8,000 = 4,800$

Science shortage = $40\% \times 8,000 = 3,200$

Benefit:

Amazon partnership = $70\% \times 4,800 = 3,360$

Coordinated sharing = $20\% \times 3,200 = 640$

Total benefit = 4,000 books

Note: a strong candidate will do the following:

- Spot the pattern in percentages:
 - Total benefit = $70\% \times 60\% + 20\% \times 40\% = 42\% + 8\% = 50\% = 4,000$ books
- Focus on the “so what?” of the 50% benefit by discussing why this is important to the overall case question.

Final Question

Case #31: Quahog Public Schools (5/5)

After the candidate has finished presenting their calculations, ask this final question:

You meet the superintendent in the hallway and they ask you what you have found so far. *What will your response be?*

Note: Strong candidates will spot that this is the ‘recommendation’ question, and will be comfortable verbalizing their recommendation in a structured way.

Recommendation

Preliminary analysis has shown that shortage of books is the leading indicator of subpar student performance in Quahog Schools.

- We have identified several ways to reduce effective shortage, in three categories: fundraising, arranging books without additional cash, and managing with same number of books.
- Our estimates indicate that we can reduce the grade 6 book shortage by 50% with two of these initiatives: partnership with Amazon and a coordinated book sharing arrangement.

Risks and Next Steps

Risks

- The other 50% (remaining shortage of 4000 books) will not be easily addressed
- Student performance may not rise sufficiently by reducing book shortage
- There may be other causes of poor performance which are impactful and need to be explored

Next Steps

- Create plan to reduce remaining book shortage
- Quantitatively estimate impact of reduced book shortage on student performance
- Explore other drivers of subpar student performance (teacher training and retention, curriculum rigor, school learning environment, etc.)

Overall	Quant	Creativity
2	3	2

Case #32: Retirement Apartment Complexes

Case Type:

Profitability/ Market Entry

Undisclosed – Candidate Driven

Industry:

Real Estate

Concepts Tested:

- Math structuring
- Brainstorming

Case #32: Retirement Apartment Complexes (1/6)

UNDISCLOSED – Round 1 – Candidate Driven

Quant Level – MEDIUM

Case Type	Industry	Client Type
Profitability / Market Entry	Real Estate	Property Management

Fit Questions

1. Tell me about a time you used data to solve a problem and to convince someone of your solution.
2. If you receive multiple offers, how will you pick a Firm?

Interviewer Guidance

This case will require candidates to focus on profitability analysis, within the context of new market entry considerations. Strong candidates will bring structure to their quantitative analysis, in order to keep information organized across a set of options. While candidates will be tempted to round during math calculations, this is one case where the answers could be impacted by doing so and thus rounding should not be permitted.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance

☐ ☐ ☐ ☐ ☐

Case Prompt

Our client owns and operates 25 retirement apartment complexes for the 55-75 year old demographic. The apartment complexes are in the Southeast and Southwest states of Florida, California, New Mexico and Arizona.

The main goal for the client is to maximize profitability, so the client company's CEO is considering expanding into Northern states. As a pilot, the client built an apartment complex in downtown Chicago two years ago. By and large, the client's apartment complexes have similar designs and amenities. However, the new complex in Chicago has more amenities than the client's properties in the South.

What are the main factors the CEO should consider for growth in the US?

Case Development

1. Framework
2. Math Question
3. Brainstorm
4. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #32: Retirement Apartment Complexes (2/6)

Additional Case Information

Provide the information below if requested.

Demand in the North

A survey of pre-retirees and retirees across a number of states, including New York, New Jersey, Massachusetts and Illinois, revealed an unmet demand in the North for retirement facilities. Retirees wanted options that would allow them to stay close to their families and friends.

Competition

In the South competition is fierce. In the North, competition is fragmented or nonexistent.

Revenues

- In the South, rent includes maintenance, amenities, and utilities.
- In the North, rent further includes charges for access to a 24-hour on-site medical facility.
- For the purposes of this analysis, buildings within a region can be considered identical.

Amenity Differences

The pilot building in the North offers 24-hour access to a medical facility in the complex.

Case #32: Retirement Apartment Complexes (3/6)

Framework

Retirement facility industry

- Market size/growth
 - By region
 - Other segments (demographics, type of care needed)
- Trends/retiree preferences
 - Proximity to family
 - Integrated health services
 - Low tax states
 - Urban vs. suburban/rural
- Competitor landscape
 - By region within industry
 - From other types of property use (multi-family housing, condos, assisted living facilities)

Market entry considerations

- Startup/construction costs - build vs. buy?
- Marketing needs/launch strategy
- Client fit for expansion in new region
 - Construction and property mgmt. relationships
- Barriers to entry
 - Regulation
 - Access to financing
- Time to breakeven

Profitability (North vs. South) = R - C

Revenue

- Rent
 - # of units
 - Occupancy rate
 - # of bldgs. and regions
- Utilities, if managed by building co.
- Premium for amenities, if any
- Retail revenue, if applicable
- Building maintenance fees

Costs

- Fixed costs
 - Property management contract/labor
 - Amenities
 - Admin and marketing
 - Lease and property taxes
 - Maintenance (bldg.-wide i.e. HVAC)
 - Building-wide utilities
- Variable costs
 - Maintenance (i.e. per unit wear and tear costs)
 - Utilities (per unit)

Transition statement: In order to evaluate the options on the basis of profitability, we need to understand the cost differential between complexes in the South and the pilot complex in the North.

Case #32: Retirement Apartment Complexes (4/6)

Math Questions

1. Which region generates more profit per building in the short-term? In the long-term?
2. How do the profit margins compare between the regions?

Information to provide to candidate:

Occupancy rates

Occupancy rates for new complexes typically start around 90%. Over time, they have tended to settle out around 80%. The pilot building in Chicago is still seeing a 90% occupancy rate.

Per Building, Per Month	South	North
Units/Building	800	400
Rent revenue/Unit	\$500	\$1000
Maintenance costs/Unit	\$125	\$200
Amenities	\$48,000	\$56,000
Utilities	\$38,000	\$45,000
SG&A	\$80,000	\$64,000
Medical Facility	\$0	\$55,000

Note: Maintenance costs/unit are incurred regardless of occupancy.

Interviewer Guidance

- To challenge candidate, don't provide units per building figure until candidate requests it.
- If needed, prompt candidates to compare profit margins in addition to profits per building.
- Candidates may want to round – however, in this case, rounding may affect their answer. Request that the candidate complete the calculations without rounding.

See next page for calculations.

Sample Takeaways

- Profit margins in the South are higher across the board.
- Profitability in the first couple years after an expansion, when occupancy rates are 90% in both the North and South, is significantly higher in the South.
- If the North's 90% occupancy rate holds, profitability per building would be commensurate with the South in the long run -- could provide good diversification benefit for company.
- Occupancy trend in pilot building should be monitored.
- Potential to add medical facilities in Southern buildings, given demonstrated willingness to pay for those services in the North.

Case #32: Retirement Apartment Complexes (5/6)

Math Solution

	South		North	
Occupancy	80% (current buildings)	90% (given expansion, first couple years)	80% (if rate falls to match Southern trend)	90% (current pilot rate)
Revenues per month = rent * # units * occupancy rate	$\$500 * 800 * 80\%$ = 320K	$\$500 * 800 * 90\%$ = 360K	$\$400 * 1000 * 80\%$ = 320K	$\$400 * 1000 * 90\%$ = 360K
Costs per month = FC + VC	$48K + 38K + 80K + (125 * 800) = 166K + 100K$ = 266K		$56K + 45K + 64K + 55K + (200 * 400) = 220K + 80K$ = 300K	
Profit per month = R - C	$320K - 266K$ = 54K	$360K - 266K$ = 94K	$320K - 300K$ = 20K	$360K - 300K$ = 60K
Profit margin = Profit/R	$54/320 = 27/160$ (long divide) = 16.875%	$94/360 = 47/180$ (long divide) = 26.11%	$20/320 = 1/16$ (half of 1/8) = 6.25%	$60/360 = 1/6$ = 16.67%

Case #32: Retirement Apartment Complexes (6/6)

Brainstorm Question

What are the benefits and risks to entering the market in the North?

Sample Brainstorm Structure

	Benefits	Risks
Market share	First mover advantage in the North given low competition levels	High level of fragmentation may be function of underlying fundamentals or regulatory barriers
Profitability	<ul style="list-style-type: none"> Potentially higher occupancy rates Higher proven willingness to pay for amenities Diversification benefit for company as a whole, in the event of regional recessions 	<ul style="list-style-type: none"> Uncertainty on occupancy trends Higher willingness to pay / occupancy may be impacted more in a recession Costs may increase disproportionately over time (minimum wage laws, taxes) Opportunity cost from tying up capital in North instead of Southern expansion / medical facility expansion Startup cost overruns
Operations	New build allows for updated amenities, adoption of best practices	Uncertainty on new build timelines, zoning, licensing, subcontract relationships, etc.

Request for Recommendation

What is the recommendation for the client?

Recommendation

Build out market entry plan in the North to obtain first mover advantage, pilot medical facility renovation in the South

- Profit margin is equivalent in new Northern market (ST) as established Southern market (LT) at ~16.8%
- High customer WTP for amenities, such as a medical facility, indicates market opportunity for upgrades in current facilities and inclusion in any new Southern expansion; high profit margin for new Southern expansion allows for such facility upgrades

Risks

- Drop in occupancy rates in North
- Startup costs in Northern expansion
- Cost of medical facility renovation
- No interest and / or capability to pay for medical facilities in South

Next Steps

- Conduct market survey for occupancy benchmarks in North
- Negotiate long-term contracts with contractors
- Price out medical facility renovation
- Survey residents in Southern facilities for interest in medical facility

Overall	Quant	Creativity
3	3	2

Case #33: Skylight Goods

Case Type:
Operations

BCG – Candidate Driven

Industry:
Industrial Goods

Concepts Tested:

- Inventory Management
- Manufacturing
- Distribution channel

Case #33: Skylight Goods (1/10)

BCG – Round 1 – Candidate Driven

Fit Questions

1. Tell me about a time you've had to communicate something difficult to a client. How did you do that?
2. Tell me about a time when you built consensus for an idea you proposed.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client, Skylight Goods, is a \$12B industrial goods manufacturer. They have various divisions and the division they are working with makes pressure sensitive self adhesive canvases for sign boards. This division has seen revenues stagnate over the past few years and profitability has declined.

Skylight has engaged BCG to help them with this issue. The two questions facing them are:

1. How can skylight improve profitability?
2. Should the client change its delivery channels?

Note: Candidate should answer these questions sequentially. The first question tests costs; the second tests top-line growth.

Interviewer Guidance

This is a profitability case that tests candidates' quantitative, critical analysis, and self-directing skills. Push the candidate to drive the case.

Quant Level – HEAVY

Case Type	Industry	Client Type
Operations	Industrial Goods	Manufacturing

Case Development

1. Framework
2. Profitability analysis: Costs
3. Operations analysis: Distributors
4. Recommendations

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



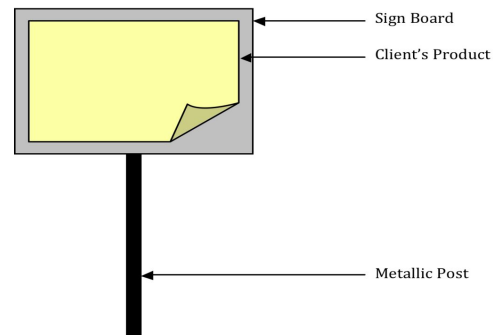
Synthesis and Recommendation



Case #33: Skylight Goods (2/10)

Interviewer Guidance

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



Case #33: Skylight Goods (3/10)

Interviewer Guidance

Provide the following information if the user probes:

1. Revenue has stagnated at about \$100M per year.
2. Price has not changed. Since this is an undifferentiated product, there are no opportunities to increase or decrease price.

Provide the following descriptions only if the candidate asks.

About Skylight Goods

- Skylight positioning: Skylight is among the largest market share holders in the pressure sensitive self-adhesive canvas market. Skylight has been in this industry for a long time and has an established brand. Skylight has grown through acquisitions and has a few manufacturing plants that it has acquired.
- Geography: Skylight supplies the entire US.
- Product Mix: Assume that there is only one kind of product in the client's product mix. There are no opportunities to change this.
- Objective of the case: The client has already asked us whether they should look at improving their distribution channels.

If the candidate asks, provide this information. Otherwise, provide after the framework has been presented by the candidate.

The Market

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

Discussion of candidate's framework should identify that there are no opportunities on the revenue side. The candidate should then explore costs. So:

- **Provide Exhibit 1** when asked about costs. With Exhibit 1, candidate should conclude that the only cost that is increasing significantly is the manufacturing cost.
- When candidate asks for more information about manufacturing costs, **provide Exhibit 2**. Otherwise, drive the candidate towards manufacturing costs and then provide the exhibit.

Case #33: Skylight Goods (4/10)

Framework

Market

- Growth
 - % share held by Skylight Goods
- Competition
 - New entrants
 - Number of competitors
 - Differentiation
 - Price
 - Substitutes

Operations

- Delivery channels
 - Distribution center locations
 - Customer locations
 - Service levels
 - Vendors
 - Cost efficiencies

Transition statement: Since there is no change in price and the product is undifferentiated in the market, it is clear that costs are decreasing client profitability. I would like to test this by digging into the VCs associated with manufacturing.

Profitability

- Revenues
 - Price (unchanged)
 - Quantity
 - Product Mix
 - Channel Mix
 - Promotion
 - Number sold
- Expenses
 - Fixed Costs
 - PP&E/Manufacturing
 - Variable Costs
 - Labor
 - Raw Material
 - Glue
 - Paper

Framework Discussion

- As the case presents a clear question on profitability and one on delivery, the candidate's framework should include both dimensions.
- Additional information to be shared with candidate if they ask:
 - Pricing and product mix/differentiation are irrelevant to this case due to an inability to change prices for a singular, undifferentiated product.
- Refer to page 3 and then proceed to Exhibits 1 & 2 for further information to be shared with candidate.

Case #33: Skylight Goods (5/10)

Exhibit 1

Skylight Goods Income Statement (in \$ Millions):

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

Case #33: Skylight Goods (6/10)

Exhibit 2

Manufacturing Costs

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

Case #33: Skylight Goods (7/10)

Interviewer Guidance

With Exhibit 2, also provide the explanation below regarding the manufacturing process:

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

If asked, provide candidate with the following information:

- Skylight goods has heard about inventory management and they have learned that a high inventory turn is generally good for the company.
- $\text{Inventory turn} = \text{total volume} / \text{average inventory}$ (candidate should infer that average inventory has been decreasing).
- Skylight Goods has sought to increase inventory turns because they feel that the demand in the market for these canvases is uncertain. So they're unwilling to keep inventory indefinitely.
- The product can be kept in inventory for long periods and Skylight already has capability to store them.

If candidate asks why the client feels that the market demand is uncertain, say that it's what a different consulting firm has told them.

Sample Response

- After reviewing Exhibit 2, candidate should conclude that there might be something going on with the number of employees and additional hours that showed significant increase.
- Skylight Goods has produced the same length of canvas per year, but their average run length has been decreasing, number of employees increasing, and employee overtime increasing. Inventory turns has also been increasing.
- The decrease in run lengths was done to reduce inventory, but it has, in turn, caused inefficiencies in the manufacturing process.

Case #33: Skylight Goods (8/10)

Question 1

Using the information I gave you, how inefficient is Skylight Goods today in comparison to 2004?

For brainstorming, ask for ways to benchmark efficiency before calculating. Ways to do this include estimating additional hours paid / year and total time needed to produce the material.

Sample calculations:

- 2004
 - Average run: 1000 yds / 25 yds per minute = 40 minutes
 - Setup time: 20 minutes
 - Total time: 60 minutes to produce 1000 yds
 - Speed: 1000 yds / 60 minutes = 16.67 yds per minute
- 2006
 - Average run: 500 yds / 25 yds per minute = 20 minutes
 - Setup time: 20 minutes
 - Total time: 40 minutes to produce 500 yds
 - Speed: 500 yds / 40 minutes = 12.5 yds per minute

Conclusion:

To produce 1,000 yards in 2006, Skylight will need 80 minutes, 33% more than 2004. Efficiency is down 33%.

Question 1: Continued

The candidate should ask whether it's possible to produce more than 1000-yard run lengths. If so, provide the following:

- It is possible to go up to 1500 yards per run. Calculate yards per minute at 1500 yards per run and determine what the improvement in efficiency is over 2004 and 2006 in yards run per minute.

Sample calculations:

- 1500 yard run
 - Average run: 1500 yds / 25 yds per minute = 60 minutes
 - Setup time: 20 minutes
 - Total time: 80 minutes to produce 1500 yds
 - Speed: 1500 yds / 80 minutes = 18.75 yds per minute
- Improvement calculation
 - 2004: $(18.75 / 16.67) - 1 = 12.48\%$
 - 2006: $(18.75 / 12.5) - 1 = 50\%$

Conclusion:

It is clear that 1500 yards per run is an improvement in terms of yards run per minute, increasing efficiency by 12.48% and by 50% over 2004 and 2006 production, respectively.

Case #33: Skylight Goods (9/10)

Question 2

At this point, candidates should move on to the question on distribution channels. Interviewer should provide directional guidance as needed.

What factors would be important when considering changing distribution channels or networks?

Provide if asked:

- Currently, Skylight Goods works with two distributors who sell the canvases to end customers. One distributor is based on the west coast and another is based on the east coast. Customers generally prefer distributors close to them in terms of distance.
- Our competitors use several distributors across all regions.
- The distributors, whether for Skylight Goods or for the competition, work on standard percentage of sales.
- Most distributors are open to stocking multiple brands.

Interviewer Guidance

The candidate should deduce based on their analysis which distribution factors are the most important and should be supported based on case evidence. Candidate response should be structured to demonstrate thinking.

Recommendations can include:

- Skylight should engage more distributors in the other regions.
- Skylight should move its existing distributors to be more proximal to the customers

Case #33: Skylight Goods (10/10)

Risks and Next Steps

Restore profitability by increasing run lengths

- Our profitability has declined because we have reduced our average run length from 1000 yards to 500 yards. This has reduced our efficiency by 33%.
- To restore profitability, Skylight Goods should aim to increase run lengths to the maximum of 1500 yards per run. This will increase their efficiency by 12.5% over 2004 results and by 50% over 2006 results.

Improve revenues with distributor diversification

- It is possible that lack of distributor locations caused our growth to remain stagnant while the market grew at 3%.
- We should engage more distributors in geographically diverse regions of the US, so our customers may be able to source the canvases more easily. This will allow us to both regain our own internal growth and start growing at the market growth rate.

Recommendation

Risks

- Running machines at capacity may result in more wear and tear, resulting in added maintenance expenditures
- Engaging new distributors may make our existing distributors unhappy
- Potential increases in inventory holding costs due to longer run lengths

Next Steps

- Review current preventative schedule for machines and tradeoffs of running at capacity
- Identify resources to find new distributors and logistical solutions; revisit contracts with existing distributors for geographical exclusivity
- Explore reductions in inventory holding costs (less manpower, cheaper vendor to store product) to realize the benefits of increased inventory turns. The reduction of these costs may be enough to compensate for increases in manufacturing costs.

Evaluation

- A strong candidate will be self-led in narrowing down key areas for further analysis as well as in performing calculations with data provided to validate observations and recommendations.
- Recommendations should be supported by previously calculated data.
- Risks and next steps provide a good opportunity for second and third level insights regarding possible outcomes of the candidate's recommendations.
- An excellent candidate will circle back to address the client's focus on inventory management.

Overall	Quant	Creativity
2	1	3

Case #34: Smart Cards

Case Type:
Growth Strategy

McKinsey & Co – Interviewer Driven

Industry:
Technology

Concepts Tested:

- Chart clearing
- Brainstorming

Case #34: Smart Cards (1/6)

McKINSEY & CO – Round 1 – Interviewer Led

Quant Level – LIGHT

Case Type

Industry

Client Type

Growth Strategy

Technology

Manufacturer

Fit Questions

1. Tell me about a time you dealt with ambiguity and the steps you took to manage the situation.
2. Tell me about a time you had to overcome a challenging situation at work and how you maintained buy-in from key stakeholders to resolve the situation.

Interviewer Guidance

This is a command-and-control style case, where the interviewer leads the candidate through a series of questions. The candidate should maintain an active role in the discussion at all times, and should not be thrown off if the interviewer drives the case in a different direction.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client, Electronics Inc., is a large diversified Electronics Component manufacturer. One of their businesses is the manufacture of Smart Cards used by transport authorities (passenger cards). They entered this business 3 years ago.

The CEO is unhappy with the performance of this business and has asked McKinsey for help. *What areas will you explore?*

Additional detail that can be provided in response to candidate follow-up questions:

- The focus is on the US market.
- The client manufactures both Smart Cards and Card Readers. Customers for these are primarily transport authorities (e.g.: CTA).
- The client also manufactures chips and custom electronic components.
- The client's Smart Card business has experienced low revenue growth and recent customer complaints.
- The CEO is considering whether to spin off or to sell the Smart Card business.

Case Development

1. Framework
2. Q&A/ Discussion
3. Interviewer Questions

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #34: Smart Cards (2/6)

Smart Card Market

- Size/Growth
- Customer segments
- Trends in adoption/tech

Client's Smart Card Business

- Customers
- Value chain
- Synergies with other business lines

Competition

- Who (substitute manufacturers, next gen apps)
- Market share/growth of share
- Competencies

Product and Product Support

- Price vs. WTP
- Quality (reliability, product life, ease of integration with other systems, cost for updates, security)
- Delivery
- Customer service
- Servicing, replacement, maintenance

Transition statement: To understand the client's growth challenges and potential options for the Smart Card business, I'd first want to better understand the Smart Card Market and our client's position in it.

Framework

Our main customers are transport authorities. How might you segment them?

- Examples: by revenue, margin or geography.
- An example of revenue-based segmentation could be Tier 1 transport authorities (NY, Chicago, SF) vs. Tier 2 (mid-sized cities).
- If needed, lead candidate to revenue-based segmentation before transitioning to the next question.

Question 2

Great. Industry professionals do generally segment by revenue. Now what?

- The candidate should want to understand how the client does in each segment compared to their competitors.
- Once they reach this insight, **provide them with Exhibit 1.**

Case #34: Smart Cards (3/6)

Exhibit 1

Market Segment Penetration

Segment	Smart Cards Penetration in Segment	Electronics Inc. (Client) share	Competitor A share	Competitor B share	Others share
Tier-1 (10 customers)	100%	15%	40%	45%	0%
Tier-2 (70 customers)	10%	0%	2%	8%	0%

Case #34: Smart Cards (4/6)

Chart Clearing

Sample Insights from Table

- This is a concentrated market, with only 3 players.
- We are the weak third player in the market.
- Our competitors have a significant advantage in the Tier-1 segment.
 - We should consider what is needed to grow share in this segment.
- There may be opportunity in Tier-2.
 - This Tier may not be profitable though, considering the low penetration rate to date.

Note: A strong candidate will realize the last point regarding penetration rates and provide next steps when considering whether to pursue any opportunity in Tier-2.

Question 3

What do you think the key purchase drivers in this business are? (i.e. Why would a customer choose one player over another?)

Sample Answer

- Cost
 - Per unit price (card reader, smart card)
 - Replacement / maintenance / upgrade costs
 - Package pricing options of card reader + smart card ☐ Key Driver
- Quality/service ☐ Key Driver
 - Reliability of tech
 - Security
 - Customer service
 - Proven adoption in similar markets
- Flexibility
 - Switching costs (i.e. contract terms)
 - Ease of integrating with other tech / systems

Note: A strong candidate will identify key drivers and rank or prioritize these answers in some way.

If asked, tell the candidate that all players in the market have parity on everything except reliability.

Case #34: Smart Cards (5/6)

Question 4

As mentioned earlier, there have been some recent customer complaints. As a result, some of the client's current customers are considering moving to other vendors. All the players in the market have parity on all the purchase drivers except reliability.

Here is some relevant data (**read or show to candidate**):

- | | | |
|---------------------|------------------------|----------------------|
| • Electronics Inc.: | Reader Reliability 90% | Card Reliability 75% |
| • Competitor A: | Reader Reliability 98% | Card Reliability 60% |
| • Competitor B: | Reader Reliability 99% | Card Reliability 70% |

What are your takeaways from this information?

Sample Response

- Reader reliability is much more important than card reliability.
 - Cards can be easily replaced, but reader failure can shut down the entire system.
 - Client should explore the possibility of improving reader reliability since it threatens the integrity of the system.
- Client appears to have a small card reliability advantage.
 - May be an advantage that can be better monetized if it is delinked from the card reader product.

Question 5

Upgrading reader quality to 99% reliability will require a \$10M investment. Based on this information, what do you think the client should do with the business?

Note: The candidate might want to do a cost-benefit analysis, but a strong candidate will hypothesize that it may not make sense to upgrade since we have such a low market share and face two dominant players who already have 99% reliability.

Sample Response

- This is a platform strategy where “winner-takes-all” within each geography, and all Tier 1 geographies are saturated.
- For Tier-1 customers, the client is worse off than Competitor A and B. The client has reliability issues and no superior “value-proposition” in any other substantive respect.
- There are demand-side economies (proof of concept with more established customer base) and supply-side economies (scale, lower infrastructure costs) that provide the established competitors with additional advantages.
- There might be an opportunity in the Tier-2 segment, and the client should explore this possibility. However, given that the other competitors haven't targeted a larger share of Tier 2, it could simply be unprofitable.
- Unless a profitable solution can be developed for Tier 2, the client should exit the market and sell off assets to Competitor A or B.

Case #34: Smart Cards (6/6)

Question 6

How would you find out if there is an opportunity in the Tier-2 segment?

Sample Response

- The client should go to the Tier 2 customers and find out why they have not adopted smart cards.
- The insights from this investigation could potentially be used to develop a better solution for Tier 2.
- For instance, the client might find that Tier 2 customers don't need and don't want to pay for the full-scale product offered to Tier 1 customers and might be willing to consider a cheaper, functional system. In this case, the client should consider the possibility of providing a cheaper "lite" solution to the Tier 2 customers.

Synthesis

Since this case is light on quant, the interviewer should use this opportunity to push the candidate to synthesize their thoughts and to provide a recommendation orally, including risks and next steps.

Recommendation

- Unless a profitable solution can be developed for Tier 2, the client should exit the market and sell off assets to Competitor A or B.

Risks

- If the client enters the Tier 2 market, they may expose themselves to risk of an unprofitable venture.

Next Steps

- This could be mitigated by first analyzing the customer in this segment and determining whether the client can better meet Tier 2 customer needs as compared to current competitors. However, if the client cannot do this, it is best to divest themselves of the card reader and smart card assets.

Evaluation

Candidate performance differentiators:

- A framework suited to this case – exploring the industry and competition, not profitability.
- Realizing that the Tier-2 segment may be unprofitable to serve.
- Recognizing that reader reliability is more important for integrity of the system.
- Understanding the "winner-takes-all" nature of this business.
- Answering the original question of "what to do" – sell-off assets to a competitor and exit. This can be a difficult insight because it is counterintuitive to tell a client to give up on a business or line of business. However, it is important that it not be overlooked, as sometimes the best answer is not the one that will result in the most growth.

Overall	Quant	Creativity
2	2	3

Case #35: Student Health Insurance

Case Type:
Growth Strategy

Deloitte – Interviewer Driven

Industry:
Financial Services & Insurance

Concepts Tested:

- Operating Margin
- Competitive Dynamics
- Market Penetration

Case #35: Student Health Insurance (1/11)

DELOITTE – Round 2 – Interviewer Led

Quant Level – MEDIUM

Case Type	Industry	Client Type
Growth Strategy	Financial Services & Insurance	Insurance

Fit Questions

- When did you make a lasting impact on a team?
- If I asked your last boss why I shouldn't hire you, what would they say?

Interviewer Guidance

This case tests a candidate's ability to engage in structured brainstorming and interpret large volumes of data. Strong candidates will be extremely diligent about structuring their responses. The interviewer should note that the sample responses included here are not the only successful responses.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a business unit within a large national health insurance company. The client focuses primarily on the higher education student health insurance market, selling medical insurance, prescription drug insurance and dental insurance to students at large universities. The client is the market leader, both in terms of customers (~500K) and revenue (~\$500M). The overall market for higher education student health insurance is estimated at 2.5M potential customers and \$2.2B in potential revenue.

This market requires a unique, two-staged sales model. The "first sale" is often made to the on-campus student health center to gain access to the student population. The "second sale" is to the students, who are the ultimate purchasers of the insurance products. In certain segments of the market, a broker may also act as an intermediary to the school.

Case Development

- Framework
- Multiple Discussions/Q&A
- Multiple Recommendations

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #35: Student Health Insurance (2/11)

Case Prompt: Continued

The client's operating margins have declined significantly in the face of aggressive competition and shrinking higher education budgets. Additionally, health care reform presents a potential risk for future growth and profitability – notably, students age 26 and under can remain on their parents' health insurance (versus having to buy student health insurance), and health insurers will be required to spend 80% of all revenue on medical expenses. The client's current operating margins are 9%, down from 25% five years ago.

Deloitte Consulting has been engaged to identify profitable avenues of growth for the client as a part of the client's three-year growth strategy. Additionally, we have been asked to deliver prioritized recommendations on potential growth strategies.

Case Questions:

The following questions are provided on subsequent pages in the order that they should be revealed to the candidate. Do not share all questions with the candidate up front, as each question is meant to be a mini-case. A traditional framework will not be needed for this case, but the candidate should remain structured in their thinking and in their responses throughout the case.

1. **Brainstorm:** What are the potential avenues of growth for the student health insurance company?
2. **Chart Clearing:** What are some of the key trends that you see on the data sheet (Data Sheet 1)? Based on these trends, what are the potential avenues of growth for the student health insurance company?
3. **Brainstorm:** Our client felt a large part of the addressable market was not being addressed (the small school market). They specifically wanted a strategy for moving “down market” and going after smaller schools. At a high level, what qualitative and quantitative criteria should the client consider when assessing this market?
4. **Quantitative Analysis:** Our primary concern related to the attractiveness of the small school segment was whether healthy operating margins could be achieved. What type of information would you need to calculate operating margin percentage for this segment? What is the operating margin percentage for each of the four product / customer scenarios?
5. **Recommendations:** Given the outcome of your previous operating margin analysis, what recommendations would you develop for the client in terms of pursuing the small school market?
6. **Synthesis:** Ultimately, multiple opportunities were identified for the client to grow, including increasing share in the core market, pursuing small schools and selling new products to schools and to students – how would you evaluate the opportunities and prioritize them?

Case #35: Student Health Insurance (3/11)

Question 1

What are the potential avenues of growth for the student health insurance company?

Interviewer guidance:

- This question was intentionally developed to assess the candidate's ability to deal with ambiguity and provide a variety of solutions based on their academic and professional experience.
- Look for the candidate to provide structure in assessing the growth opportunity.
- If the interviewee starts listing random opportunities, ask how they would structure an approach to devising ideas.
- A sample response is provided to the right. This framework is one of several potential avenues a candidate might take towards answering this question. The interviewer should evaluate the candidate's ability to create a high level structure and to flesh it out with more granular insights.

Sample Response

		Products/Business Models	
		Existing	New
Customers/Markets	New	<ul style="list-style-type: none"> • Identify new segments / channels to sell existing products <ul style="list-style-type: none"> • Pursue small school segment (universities) • Pursue secondary schools (private / charter schools) to capture transition to college • Pursue individual students where schools do not offer insurance 	<ul style="list-style-type: none"> • Target non-consumers (uninsured), tailoring product scope to address barriers to entry (i.e. emergency plans for cost-conscious consumers)
	Existing	<ul style="list-style-type: none"> • Defend and grow the core business <ul style="list-style-type: none"> • Optimize price • Enhance marketing and sales force effectiveness to increase penetration • Apply pricing strategy to steal share in the large school market • Develop additional areas of differentiation (functionality, reliability, convenience) 	<ul style="list-style-type: none"> • Develop new products for students AND schools customers <ul style="list-style-type: none"> • Capture student wallet share for adjacent insurance products (tuition insurance, electronics insurance, auto insurance, renters insurance, etc.) • Consider adjacent health services for current students (mental health, wellness) • Consider adjacent services for health centers (billing) • Develop digital applications to provide remote health services

Case #35: Student Health Insurance (4/11)

Question 2

Provide the candidate with Data Sheet 1 (next page).

Ask the candidate:

What are some of the key trends that you see on the data sheet?

Based on these trends, what are the potential avenues of growth for the student health insurance company?

Interviewer guidance:

Ask the candidate to synthesize their comments and provide additional recommendations (a strong candidate will draw insights from these trends without being prompted).

Sample Response

Charts

1: Lower enrollment schools (<10K students) have a significant portion of students (42%) fragmented across thousands of schools.

2: The client earns the vast majority of its revenue from schools with more than 10K students.

1 & 2: There is an opportunity for the client to diversify its current revenue base by pursuing the small school market, which is comprised of almost 90% of all schools.

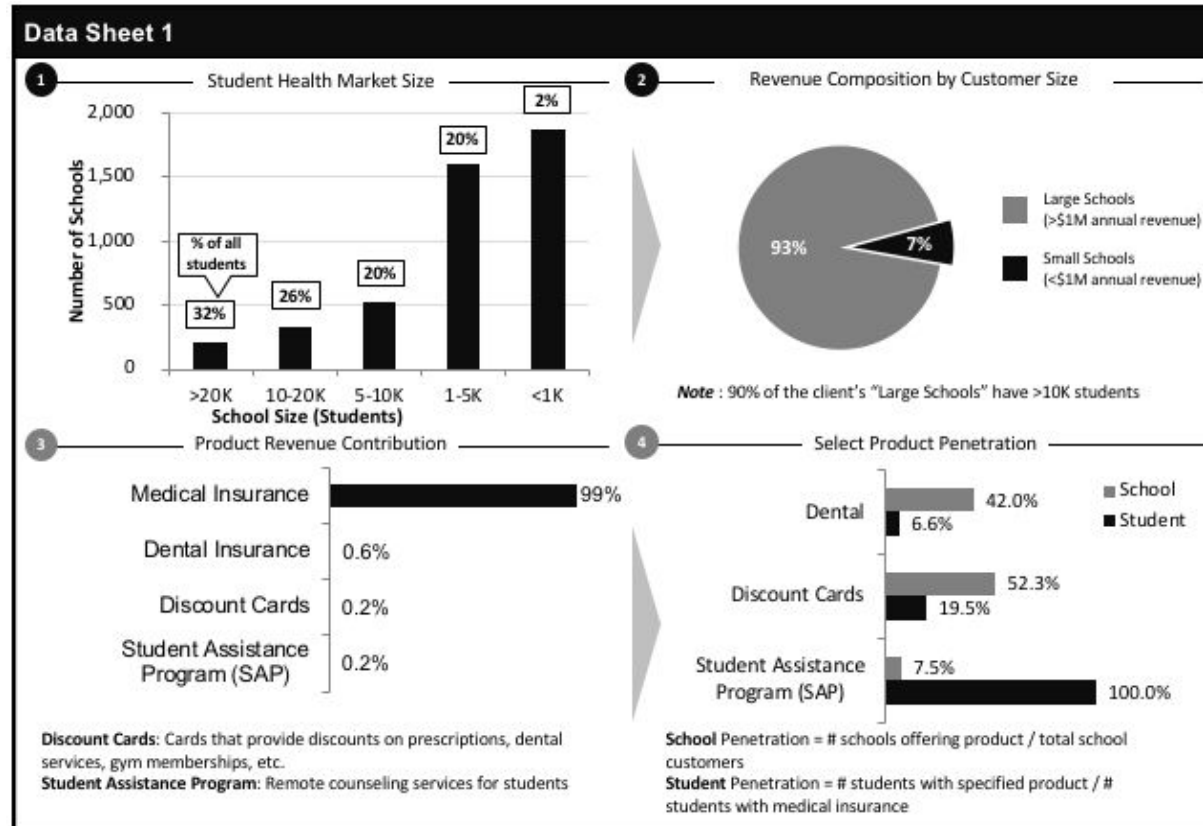
3: The client is not well diversified in terms of number of products driving revenue.

4: The client has difficulty selling its ancillary products to both students and schools that purchase the medical product.

3 & 4: There is a significant opportunity to grow revenue by increasing the penetration of non-core products.

Case #35: Student Health Insurance (5/11)

Data Sheet 1



Case #35: Student Health Insurance (6/11)

Question 3

Our client felt a large part of the addressable market was not being addressed (the small school market).

They specifically wanted a strategy for moving “down market” and going after smaller schools. *At a high level, what qualitative and quantitative criteria should the client consider when assessing this market?*

Interviewer guidance:

- Interviewee should recognize this is a market attractiveness question and provide relevant criteria for assessment.
- The market attractiveness criteria and corresponding comments provided to the right are NOT exhaustive. Look for the candidate to touch on many of these areas, and possibly offer other areas for investigation.
- The interviewer should again focus on the candidate’s ability to provide a structured, detailed response.

Sample Response

Criteria	Qualitative	Quantitative
Market size	<ul style="list-style-type: none"> • Segment the market to understand potential customer behavior • Consider key factors in insurance buying behavior 	<ul style="list-style-type: none"> • Quantify revenue potential by considering # of schools, # of students, insurance requirements, and premium projections by segments developed
Market growth	<ul style="list-style-type: none"> • Assess maturity of the market • Consider market trends and healthcare reform 	<ul style="list-style-type: none"> • Historic market growth rates • Model projected number of schools currently in the market and likelihood to join
Competitive intensity	<ul style="list-style-type: none"> • Conduct customer interviews, focus groups, voice of the customer analysis • Conduct competitor assessment 	<ul style="list-style-type: none"> • Market share analysis • Win/loss rates for sales
Strategic fit	<ul style="list-style-type: none"> • Determine how strategy required to win in new segment (cost versus differentiation) aligns with existing business strategy 	<ul style="list-style-type: none"> • N/A
Capability needs	<ul style="list-style-type: none"> • Understand future state capability needs from the new market • Conduct gap analysis 	<ul style="list-style-type: none"> • Requisite investments (capital expenditures) to enter the new market
Profitability	<ul style="list-style-type: none"> • Interview potential clients to develop understanding of revenue and cost assumptions 	<ul style="list-style-type: none"> • Model potential margin scenarios based on various revenue, market size and cost structure assumptions
Likely penetration / market share	<ul style="list-style-type: none"> • Assess customer needs in the market • Consider client’s current share in other segments 	<ul style="list-style-type: none"> • Model sensitivity analysis based on market growth, competitive intensity, margin and pricing requirements

Case #35: Student Health Insurance (7/11)

Question 4: Part 1

Our primary concern related to the attractiveness of the small school segment was whether healthy operating margins could be achieved.

What type of information would you need to calculate operating margin percentage for this segment?

Sample Answer:

- Cost structure of the company (fixed versus variable)
- Product pricing
- Penetration (number of customers)
- Total revenue

Interviewer Guidance:

Do not provide candidate with Data Sheet 2 until they provide some ideas in response to the question.

Question 4: Part 2

Provide candidate with Data Sheet 2.

What is the operating margin percentage for each of the four product / customer scenarios?

Response (see next pages for complete calculations):

Option	Operating Margin %
1	5.5%
2	3.0%
3	0.5%
4	(2.0%)

Follow-Up Question:

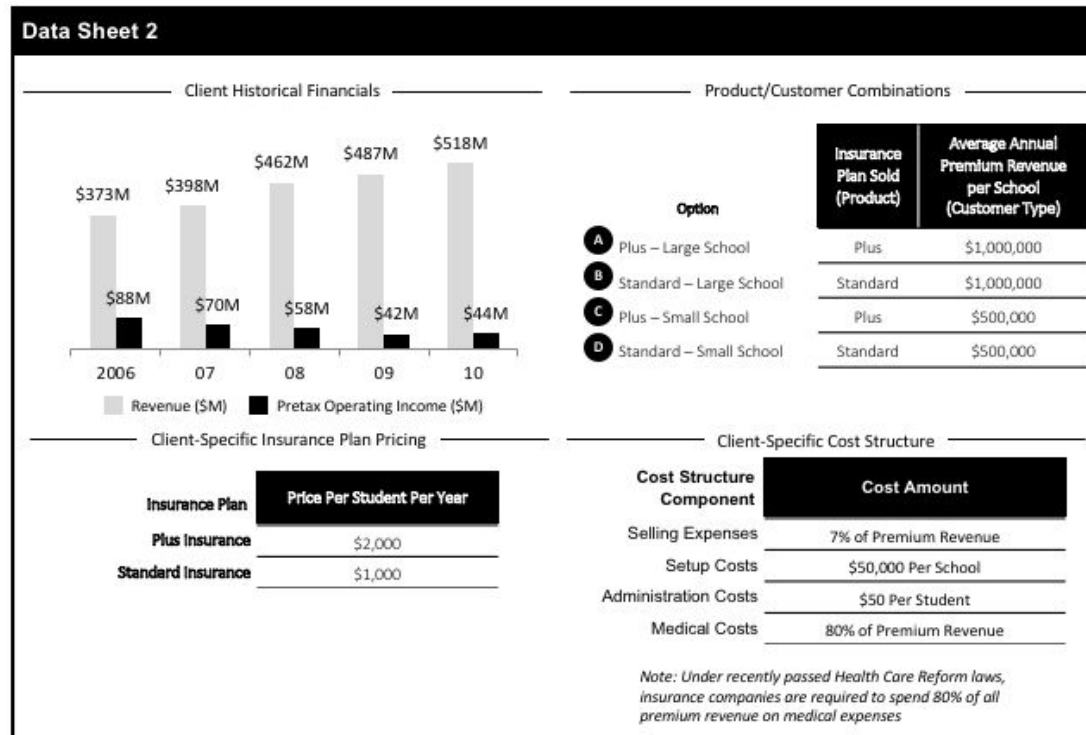
What observations or trends do you notice about the cost structure?

Sample responses

- Fixed costs are more tenable with larger customers.
- Higher priced product cuts variable costs in half.
- Medical expenses / selling expenses are fixed regardless of the school size or product.

Case #35: Student Health Insurance (8/11)

Data Sheet 2



Case #35: Student Health Insurance (9/11)

Question 4: Sample Response

Using Data Sheet 2, the interviewee should calculate the expected costs under each of the four scenarios and then calculate the operating margin percentage. They will need to calculate the number of customers in each scenario and apply the fixed and variable costs.

Option	Product Sold	Avg. Annual Premium Revenue per School	Customers (Students per school)	Medical Expenses	Selling Expenses	Setup Costs	Admin Costs	Total Costs	Operating Margin %
1	Plus (\$2,000)	\$1,000,000	500	80% (\$800K)	7% (\$70K)	5% (\$50K)	2.5% (\$25K)	94.5% (\$945K)	5.5%
2	Standard (\$1,000)	\$1,000,000	1000	80% (\$800K)	7% (\$70K)	5% (\$50K)	5% (\$50K)	97% (\$970K)	3.0%
3	Plus (\$2,000)	\$500,000	250	80% (\$400K)	7% (\$35K)	10% (\$50K)	2.5% (\$12.5K)	99.5% (\$498K)	0.5%
4	Standard (\$1,000)	\$500,000	500	80% (\$400K)	7% (\$35K)	10% (\$50K)	5% (\$25K)	102% (\$510K)	(2.0%)

Case #35: Student Health Insurance (10/11)

Question 5

Given the outcome of your previous operating margin analysis, what recommendations would you develop for the client in terms of pursuing the small school market?

Interviewer guidance:

- Interviewee likely will not give a simple yes or no answer, but they should identify scenarios under which it would make sense to pursue the market.
- Use the prompt questions to the right as necessary to draw out a stronger candidate response.
- Interviewee should recognize that under the provided cost structure, none of the scenarios lead to an operating margin that was in line with the current, overall operating margin (provided in the background section); better answers will center on finding ways to make the market viable (by applying levers to improve profitability or inventing a new business model).

Sample Response

	Whether to pursue	How to pursue	Prompt Questions (if required)
OK Answer	<ul style="list-style-type: none"> • Client should not pursue the segment because it is not profitable enough 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • Under what conditions should the client pursue the small school market?
Good Answer	<ul style="list-style-type: none"> • Client should pursue the market if they can apply different levers to make it more profitable 	<ul style="list-style-type: none"> • Reduce SG&A or selling costs through standard cost reduction methods (business process redesign, contract renegotiation, etc.) • The interviewee may suggest price increases or reducing medical costs, but it's important to note that neither is possible under current health care reform 	<ul style="list-style-type: none"> • Is there anything they could do to make the unprofitable small market segment more attractive?
Strong Answer	<ul style="list-style-type: none"> • Client should pursue the market with a different business model 	<ul style="list-style-type: none"> • Create an online B2C model that sells directly to students and bypasses the two intermediaries (brokers and schools) – similar to other industries that have transitioned into direct, online distribution (e.g. books, airplane tickets, etc.) • Other ideas 	<ul style="list-style-type: none"> • What kind of business model would be appropriate for this market?

Case #35: Student Health Insurance (11/11)

Question 6

Ultimately, multiple opportunities were identified for the client to grow, including increasing share in the core market, pursuing small schools and selling new products to schools and to students.

How would you evaluate the opportunities and prioritize them?

Interviewer Guidance:

Interviewee should establish a framework for screening or prioritizing multiple opportunities. A sample framework and criteria are provided to the right to end the case.

Note that a traditional recommendation followed by risks and next steps is not necessary in this case. Rather, a framework that structures and synthesizes priority areas from the case discussion is best.

Sample Response

Strategic Impact and Fit

- Competitive differentiation
- White space / new market opportunity
- Is there disruptive potential?
- Address unmet marketplace needs
- Alignment with current business unit and corporate strategy

Financial Impact

- Revenue potential (what is the market size?)
- What is the expected margin?
- Administrative cost reduction
- Future cost avoidance

Necessary Costs

- Investment (capital) costs
- Ongoing operating costs

Ease of Implementation

- Alignment with existing capabilities
- Complexity of the change
- Availability of partners or acquisition targets

Overall	Quant	Creativity
3	3	2

Case #36: Super Jr. Baby Formula

Case Type:

Investment Decision

Bain & Company – Candidate Driven

Industry:

Consumer Products

Concepts Tested:

- Chart clearing

Case #36: Super Jr. Baby Formula (1/10)

BAIN & COMPANY– Candidate Led

Quant Level – MEDIUM

Case Type

Industry

Client Type

Investment Decision

Consumer Products

Private Equity

Fit Questions

1. Tell me about a time you managed a work conflict.
2. What is the best feedback you've received? Why?

Interviewer Guidance

This case tests a candidate's ability to clear charts effectively and to synthesize a large volume of information to make a recommendation. A strong candidate will develop a framework that goes beyond discussion of market conditions and profitability, and they will apply their framework to drive the case forward.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Your client is a private equity firm looking at the baby formula market in China. In particular, they are looking at a company called Super Jr., which is a Chinese startup founded in 2006. Super Jr. brands itself as a foreign company, advertising their products as being made and imported from Australia.

The PE firm would like your help in determining whether they should invest in Super Jr.

Case Development

1. Framework
2. Discussion/Q&A
3. Chart Clearing/Quantitative Analysis
4. Final Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #36: Super Jr. Baby Formula (2/10)

Additional Information

Provide the following information in the discussion with candidate.

Business Model

- Super Jr. currently has no manufacturing capabilities and sources their product, “Super Jr. Formula,” from an Australian manufacturer.
- Super Jr. primarily distributes to regional and local supermarkets. The supermarkets currently charge them a fee for stocking their product (for shelf-space usage).

Brand

- Super Jr. has spent a lot on marketing and has gained reputation in the Chinese market as a “decent” brand.

Management

- The management team at Super Jr. is composed of people who have previously worked in the food sales and distribution industry.

Growth Strategy

- The current growth strategy is to continue expanding distribution to large-format, national retail chains (such as, Walmart), while investing further in marketing to penetrate the premium segment, allowing them to price at a premium

Exhibit 1

Present the candidate with Exhibit 1 after they have walked through their framework and have suggested a direction for further analysis (sample framework on next page).

Sample takeaways from Exhibit 1:

- The baby formula market overall has seen steady annual growth, at 20% CAGR (tripling the market size in 6 years).
 - This growth rate is strong considering that annual GDP growth in fast-growing countries like China is around 9% (although the candidate may not know this, they should feel comfortable commenting that 20% CAGR is encouraging).
 - If this growth rate continues, the market will more than double in size in a rather short time horizon (~4 years).
- Super Jr. is projected to grow from approximately \$5M to \$60M in the span of 6 years, which is very significant growth.
 - Super Jr.’s growth outlook is very optimistic compared to overall historical market growth rates.
 - This means Super Jr. will have to outgrow the market by stealing share from competitors.

Case #36: Super Jr. Baby Formula (3/10)

Framework

Baby Formula Market Considerations

- Market size / growth rate
- Competitive landscape
 - Market share / momentum
 - Competitor value propositions / business models
- Customer segment growth
 - By region / demographic
 - Willingness to pay
 - Elasticity/brand loyalty
 - Trends in product preferences (organic, imported vs. local, etc.)
- Product types
 - Commodity vs. specialty
 - Profit margin differences
 - Raw material availability / pricing
- Channels
 - Infrastructure to support growth

Super Jr. Company Considerations

- Company strategy
 - Product / customer segments
 - Growth targets
 - Organic and inorganic (M&A) growth plans
- Profitability
 - Pricing strategy / profit margins
 - Cost structure
 - Exposure to cost risks (raw materials, foreign exchange fluctuations)
- Brand image
- Supplier sources
- Channels
- Management experience
- R&D

Fit for PE Client

- Ability to hit profitability / ROI targets
- Synergies with existing PE portfolio
- PE staff capacity to provide management support vs. need for management support
- Opportunity cost from other investment options

To determine whether Super Jr. is a good investment for our client, we need to determine that:

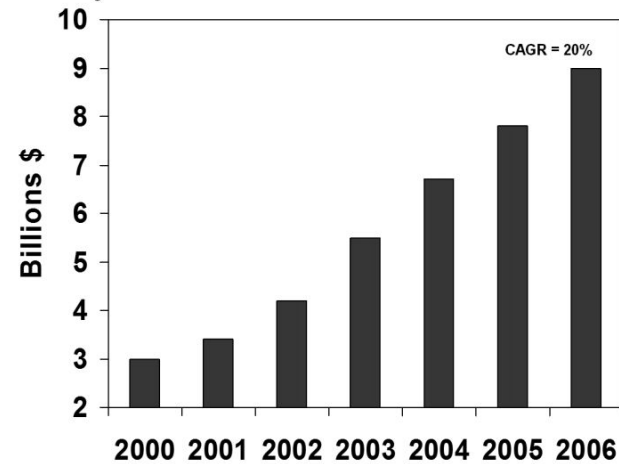
1. The baby formula market is attractive.
2. Super Jr.'s position in that market is promising.
3. Super Jr. would be a good fit within our client's portfolio.

Transition statement: My first step is to assess the growth of the baby formula market. Is there any data on the historical performance of this market?

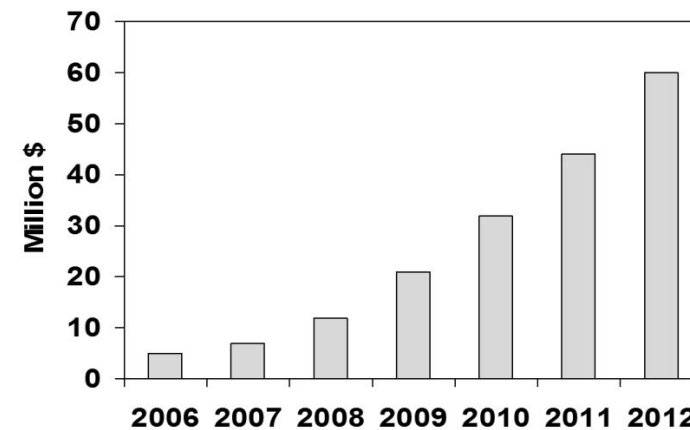
Case #36: Super Jr. Baby Formula (4/10)

Exhibit 1

Baby Formula Market Historical Data



Projected Growth from Super Jr.



Case #36: Super Jr. Baby Formula (5/10)

Math Question 1

Assuming the same CAGR from 2000 to 2006, what would be the overall market size in 2012?

Sample Response:

From the graph, we can see that CAGR of 20% implies a tripling of the market size in 6 years. Another 6 years at this growth rate would lead to a further tripling of the market size, from \$9B to \$27B.

Alternative Response:

$$\begin{aligned}\text{Final Market Size} &= \text{Initial Market Size} * (1 + \text{CAGR})^{(\# \text{ Years})} \\ &= \$9\text{B} * (1 + 0.2)^6 \\ &= \$27\text{B}\end{aligned}$$

Sample estimation process for $(1.2)^6$:

$$\begin{aligned}&= (6/5 * 6/5)^3 = (36/25)^3 \sim (35/25)^3 \\ &= (7/5) * (7/5) * (7/5) = (49/25) * (7/5) \sim 2 * 7/5 = 14/5 \\ &= 2.8 \rightarrow \text{round up to 3 because of net rounding down during simplifications}\end{aligned}$$

Math Question 2

Estimate the CAGR Super Jr. expects to achieve between 2006 and 2012. Is the projection realistic?

Sample Response:

Estimate CAGR using the rule of 72:

$$\begin{aligned}\$60\text{M}/2 &= \$30\text{M} & \$15\text{M}/2 &= \$7.5\text{M} \\ \$30\text{M}/2 &= \$15\text{M} & \$7.5\text{M}/2 &\sim \$3.75\text{M} \text{ (close to \$5M)} \\ \rightarrow \text{Size doubles almost 4 times in 6 years, or about every 1.5 years} \\ \text{Rule of 72: } 72/1.5 &= 48\%\end{aligned}$$

Alternative Response:

$$\begin{aligned}\text{CAGR} &= (\text{End Value}/\text{Beginning Value})^{(1/\# \text{ years})} - 1 \\ &= (60/5)^{(1/6)} - 1 \\ &= (12^{(1/6)}) - 1 \\ &\sim 1.5 - 1 = 0.5 = 50\%\end{aligned}$$

Note: The actual CAGR calculation results in a CAGR of 51%.

Sample estimation process for $(12)^{(1/6)}$:

$$\begin{aligned}&\text{from prior problem we know } 1.2^6 = 3, \text{ therefore } 3^{(1/6)} = 1.2 \\ (12)^{(1/6)} &= (3*4)^{(1/6)} = 3^{(1/6)} * 4^{(1/6)} \\ &= 1.2 * 4^{(1/(2*3))} = 1.2 * 2^{(1/3)} \\ &\sim 1.2 * 1.25 = 6/5 * 5/4 = (30/20) = 1.5\end{aligned}$$

Given the market CAGR is 20% and the projected CAGR for Super Jr. is ~50%, 2.5x that of the market, this projection will be difficult to achieve since Super Jr. needs to accomplish this by stealing market share from competitors.

Case #36: Super Jr. Baby Formula (6/10)

Candidate-Led Next Steps

Upon completing the quantitative analysis and discussing the results, the candidate should ask for more information, such as:

- What are the core competencies of Super Jr. and how do they compare to competitors (sales, distribution, production)?
- What particular segment does Super Jr. play in and is it easy to penetrate and/or gain share in that segment?
- What do customers demand? Does Super Jr. do anything that meets/exceeds customer expectations?

The candidate should, in general, ask for information about customer or product segments or the competitive landscape. **When they do, show the candidate Exhibit 2.**

Exhibit 2

Sample Takeaways:

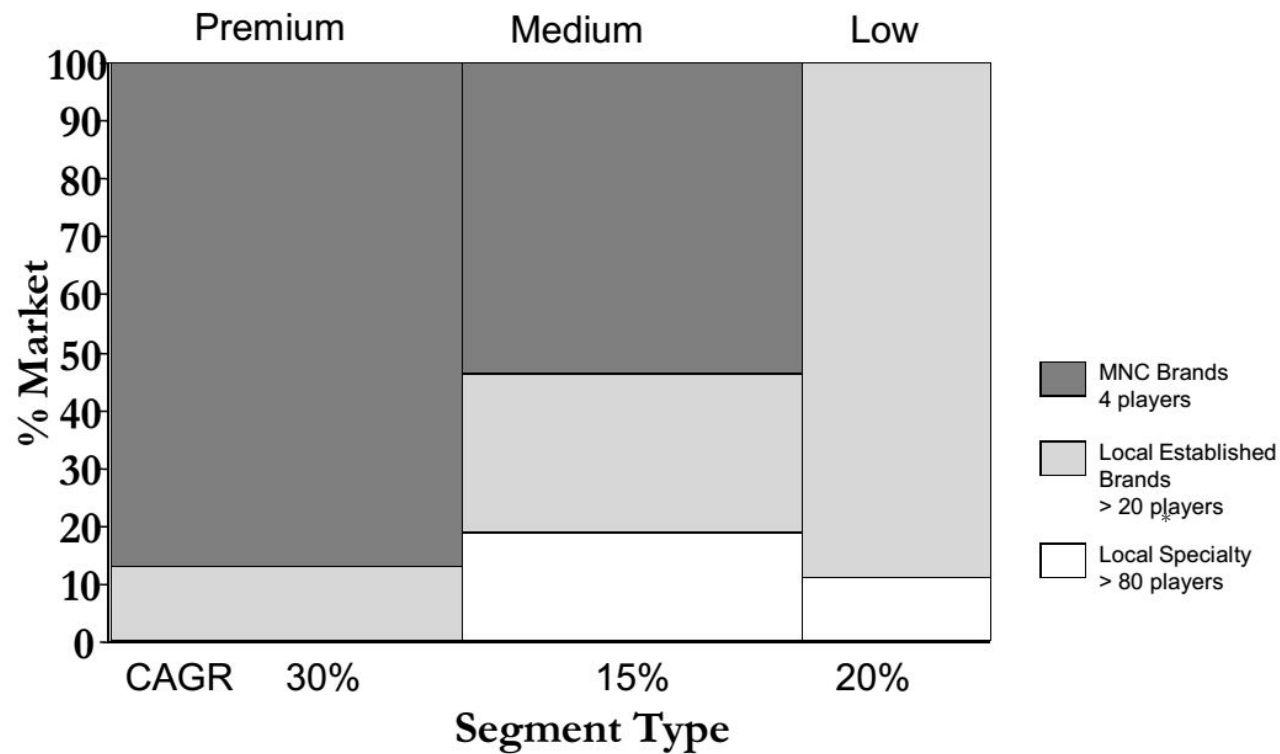
As a 'local specialty' brand, Super Jr. competes in the medium and low markets.

- The medium and low markets are highly fragmented, whereas the premium brand is much more concentrated.
- Overall market momentum is being driven by growth in the premium market.

Case #36: Super Jr. Baby Formula (7/10)

Exhibit 2

Market Share by Company Type



* Super Jr. is considered a 'local specialty' company

Case #36: Super Jr. Baby Formula (8/10)

Candidate-Led Next Step

At this point the candidate should be synthesizing the information to argue that Super Jr. is either a good or bad investment for the client.

Sample Arguments in Favor of Investment:

- Super Jr. has an established brand, so it is possible their planned move into the premium market will be successful, yielding higher growth.
- Significant fragmentation among Specialty Market players suggests an opportunity for Super Jr. to gain market share by acquisition and/or aggressive marketing.

Sample Arguments Against Investment:

- The growth rate of the markets Super Jr. competes in are much lower than their company growth projections.
- There are very few players in the premium market and, as such, there may be unforeseen difficulties for Super Jr. as it attempts to enter this segment.

Exhibit 3

Provide the candidate with Exhibit 3 once the candidate has presented some arguments either for or against investment in Super Jr.

Sample Takeaways from Exhibit 3:

- Super Jr. spends most of its resources on marketing and none on R&D.
- Super Jr. has very high raw material costs and zero manufacturing costs (which is to be expected since they source final goods).
- Prices for local established brands (which compete with Super Jr.) are much lower, primarily due to lower marketing costs.
- Input costs (raw materials + manufacturing) are fairly commensurate across segments.

Following the discussion, the interviewer should ask the candidate to synthesize the results of the case into a final recommendation. This case is very open ended and good arguments can be made either way. As long as the candidate sticks with and supports their recommendation with logical evidence from the case discussion, the recommendation should be accepted by the interviewer (sample recommendations on the following pages).

Case #36: Super Jr. Baby Formula (9/10)

Exhibit 3

Key stats by Company Types

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

Case #36: Super Jr. Baby Formula (10/10)

Rec: For Investment

Recommendation

- Invest in Super Jr.:
 - With a continued emphasis on marketing, Super Jr. can build a reputation in the premium market while gaining market share in the low and medium markets.
 - The Super Jr. business model means they have low fixed capital costs and can be flexible and responsive to the market in their choice of products to source.
 - The management team's experience in food distribution may be a significant competitive advantage as Super Jr. seeks to grow quickly.
 - As the brand gets more established, marketing expenditures could be reduced, thus increasing profit margins.

Risks

- Breaking into the premium market proves harder than expected
- Break-down of relationship with Australian distributor

Next Steps

- Conduct market study of premium market
- Analyze contract terms with distributor

Rec: Against Investment

Recommendation

- Don't invest in Super Jr.:
 - Super Jr. doesn't have any core competency (beyond marketing) to develop new products and compete in the premium market given that they do not have any R&D capabilities.
 - Their growth projections are likely premised at least in part on entering the premium market, which is highly concentrated and for which their brand isn't well-suited yet.
 - Their business model carries a lot of risk (no R&D in-house, high 'raw material' costs, single point of failure with their Australian distributor, exposure to foreign exchange fluctuations).

Risks

- Super Jr.'s business model proves to be the best setup to grow quickly in this high-growth market
- Super Jr. establishes its brand quickly and firmly, decreasing the returns on any investment in its competitors

Next Steps

- Analyze Super Jr.'s specific plans to hit its growth targets for fit with its business model
- Evaluate Super Jr.'s competitors for potential alternative investment opportunities and / or to determine Super Jr.'s competitive advantage

Overall	Quant	Creativity
3	3	3

Case #37: Apache Helicopter

Case Type:
Investment Decision

Undisclosed – Candidate Driven

Industry:
Industrial Goods

Concepts Tested:

- Brainstorming
- Chart clearing
- Math structuring

Case #37: Apache Helicopter (1/7)

UNDISCLOSED – Round 1 – Candidate Led

Quant Level – HEAVY

Case Type

Industry

Client Type

Investment Decision

Industrial Goods

Manufacturer

Fit Questions

1. Tell me about one of your strengths and one of your weaknesses and how these are displayed in a team setting.
2. Tell me about a time you had to convince someone of something using data.

Interviewer Guidance

This case tests a candidate's ability to think logically through a cost-benefit analysis between three options while determining whether assumptions are reasonable. There is no clear right answer in this case. This is a good case for practicing quantitative reasoning and structured math.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a US defense contractor. One of its divisions manufactures Apache helicopters for military operations. The company is considering setting up a new plant to meet increasing demand in the attack helicopter space. The client is considering three sites for the new plant – Brazil, France, and the US. They have hired us to help them answer the following two questions:

- 1) How would you determine the parameters for the decision?
- 2) Where should they set up the plant?

Case Development

1. Framework
2. Market sizing
3. Cost-benefit analysis
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #37: Apache Helicopter (2/7)

Additional Information

A good candidate will ask questions in a logical format and specify the categories they are considering.

If asked, provide the candidate with the following information:

- The client has 3 plants in the US; 2 in Kansas and 1 in Michigan.
- Company Information:
 - The plants operate at full capacity today.
 - One of the US plants can accommodate an additional assembly line at the cost of \$500M; the other 2 are constrained in residential areas and cannot be expanded.
 - This is the only defense contractor that sells Apache helicopters.
 - They will only be selling to Brazil, France, or the US.
 - This is the first time that they sell to Brazil or France.

Framework

A good candidate answers the prompt in the way they set up their framework.

Demand Characteristics (understand how much):

- Size of increased demand spike
 - Based on location
- Market details
 - Size
 - Current margin

Facility Capabilities by Region (understand can we do it):

- Qualified labor
- Political stability
- International supply chain management
- QA of raw materials

Profitability by plant location (select which one is best):

- NPV, Breakeven
- Revenue
 - Quantity based on plant location
 - Price per helicopter
- Cost
 - Investment
 - FC, VC of production

Transition statement: To best determine where to open a plant, I would like to first look at the demand by region. Once identified, we can further test where to establish the plant based on profitability and capabilities by region.

Case #37: Apache Helicopter (3/7)

Market Sizing / Demand

If the candidate does not begin by considering market demand, guide them toward this by calculating the increase in demand from the additional plant. This is based off of the defense budget for each of the three nations that the contractor would sell to.

Provide the candidate the following information as they ask for it:

- Defense budget for the next five years: \$100B (US), \$15B (BR), \$10B (FR)
- Countries will dedicate a certain percentage of their defense budget to be spent on Apache helicopters based on the location of the plant. **Provide Exhibit 1.**
- Candidate should conclude their calculations by identifying key takeaways from the data. For example, the highest demand / government spend (\$) will occur from a plant in Brazil.

Calculation to be performed by candidate:

	United States	Brazil	France
Plant in the US	20% * \$100B = \$20B	\$0	\$0
Plant in Brazil	20% * \$100B = \$20B	50% * \$15B = \$7.5B	\$0
Plant in France	20% * \$100B = \$20B	\$0	50% * \$10B = \$5B

Brainstorm #1

If the candidate asks about competition, remind them there are currently no other producers of Apache Helicopters. Then, guide them to think about costs.

What are the major costs that are associated with the development of the plant and production of helicopters?

There are many ways you can approach this brainstorm. The best way is to think of the value chain.

Plant Development (CAPX)	(Opex) Plant Operations		
	Sourcing	Production	Distribution
<ul style="list-style-type: none"> • Property • Legal • Construction • Qualified labor 	<ul style="list-style-type: none"> • Materials • Shipping based on location of suppliers • Sourcing QA material 	<ul style="list-style-type: none"> • Assembly • Labor (union) • Training • QA/QC 	<ul style="list-style-type: none"> • Storage (5 years) • Shipping • QA on delivery • Taxes

Note: Candidates can insert more buckets as they see fit.

Case #37: Apache Helicopter (4/7)

Exhibit 1

Defense Budget Over Next 5 Years

	Purchases by US Dept. of Defense	Purchases by Brazil Dept. of Defense	Purchases by France Dept. of Defense
Plant in the US	20% of budget	0%	0%
Plant in Brazil	20% of budget	50% of budget	0%
Plant in France	20% of budget	0%	50% of budget

Case #37: Apache Helicopter (5/7)

Cost-Benefit Information

The candidate can be provided with the information below when asking about costs.

Initial plant set-up costs:

- US: \$500M
- Brazil: \$2B
- France: \$3B

Fixed costs per year:

- US: \$100M
- Brazil: \$100M
- France: \$100M

Variable cost of production:

- US: \$15M
- Brazil: \$20M
- France: \$25M

Additional cost:

- If helicopters are shipped into the US, then the US Govt. requires them to be certified; the certification process is \$15M per chopper.

Sample Approach: Helicopters

The candidate should recognize they need the price per chopper. If they haven't identified this, steer them in that direction during the math.

- The helicopters sell for \$100M a piece.

Candidates should then recognize they need to calculate the number of helicopters produced at each plant.

	United States	Brazil	France
Plant in the US	$\$20B/\$100M = 200$ heli	0	0
Plant in Brazil	$\$20B/\$100M = 200$ heli	$\$7.5B/\$100M = 75$ heli	0
Plant in France	$\$20B/\$100M = 200$ heli	0	$\$5B/\$100M = 50$ heli

Case #37: Apache Helicopter (6/7)

Sample Approach: Costs

Candidates should layout the costs per plant location remembering the \$15M for importing to the US:

Note: A strong candidate will recognize that the revenue from France is lower than Brazil and that the initial setup costs as well as variable costs in France are higher than Brazil. Therefore, they should rule France out and not need to perform the calculation.

Plant location	United States	Brazil	France
Initial setup	\$500M	\$2B	\$3B
Annual Fixed Cost	$\$100M \times 5 = \$500M$	$\$100M \times 5 = \$500M$	$\$100M \times 5 = \$500M$
Variable Cost	$\$15M \times 200 = \$3B$	$\$20M \times (200 + 75) = \$5.5B$	$\$25M \times (200 + 50) = \$6.25B$
Import Cost	\$0	$\$15M \times 200 = \$3B$	$\$15M \times 200 = \$3B$
Total Costs (Over 5 years)	\$4B	\$11B	\$12.75B

Sample Approach: Profit

A great candidate will pause and explain why the costs are so different between the various locations. They may give some hypotheses around why certain differences, such as production costs, may be even more of an issue with exchange rate volatility, etc.

At this point a candidate should be fully pushing to calculate the total profit expected per location.

Plant location	United States	Brazil	France
Total Revenue (over 5 years)	\$20B	$\$20 + \$7.5B = \$27.5B$	$\$20B + \$5B = \$25B$
Total Cost (over 5 years)	\$4B	\$11B	\$12.75B
Profit (Over 5 years)	\$16B	\$16.5B	\$12.25B

At this point, a good candidate should recommend which plant the contractor should select.

A great candidate will directly jump into a brainstorm of the risks between selecting one plant over the other.

Case #37: Apache Helicopter (7/7)

Brainstorm #2

Given that there is only a 3% difference in profit, what are some factors that would cause you to choose either the US or Brazil?

Candidates should pick up that this is a risk brainstorm. The best way to do this would be to list risk factors down the left hand side of a table and compare the two options:

Risk	Plant in US	Plant in Brazil	Advantage
Political	Negative view of US defense contractors	Instability, issues with president, Reselling	US
Currency	Another recession	Cheaper to pay labor Volatility in currency/5 years	US
Labor	Unionized labor, skilled	Cheaper labor, unskilled	Brazil
Cost of quality material	Expensive to receive initial material	Expensive to have proper QA/QC	US
Assumptions (demand, etc.)	New administration in 5 years New opp. in Brazil (commercial heli)	More likely to pull back from purchase	US

Evaluation

- This case tests a candidate's ability to weigh different options and understand the potential demand for the client's product. Creativity and the ability to drive the case in the right direction should be rewarded.
- It is important that the candidate refer back to the original case questions and allow their framework to drive the analyses.
- A good candidate will anticipate the risks and do a cost-benefit exercise. By doing so, they should select one option and make a clear and succinct recommendation based on what they find.

Recommendation

Once the cost-benefit analysis is complete, ask for a recommendation:
"The CEO is about to walk into the room and has asked us for a recommendation. What would you tell them?"

- Note: This is meant to go either way based on candidate's last brainstorm; sample is for US.

A potential response could include:

- You should open a new plant in the US
- It is slightly less profitable than opening in Brazil, however, your existing operations and stability in the US offset the potential risk of opening up in Brazil

Risks

- Change in administration causing decreased demand
- Missing out on opportunity to enter Brazil

Next Steps

- We should look into locking in a contract with the existing administration to ensure purchase
- We should see if Brazil would purchase at a price lower than \$100M. Additionally, we should do an analysis to see if we can enter in a commercial helicopter capacity.

Overall	Quant	Creativity
2	2	1

Case #38: White Boards

Case Type:

Sourcing Outsourcing

Bain & Company – Candidate Driven

Industry:

Durable Goods

Concepts Tested:

- Chart clearing
- Cost / benefit analysis

Case #38: White Boards (1/5)

BAIN & COMPANY – Round 1 – Candidate Driven

Quant Level – MEDIUM

Case Type

Industry

Client Type

Sourcing /
Outsourcing

Durable Goods

Manufacturer

Fit Questions

1. Tell me about a time when you utilized effective communication to resolve an issue.
2. What will be the major challenge you face as a consultant and how will you mitigate it?

Interviewer Guidance

This is a cost / benefit analysis case. Candidate should try to compare the advantages and disadvantages of in-house trucking services with that of outsourced trucking services. If asked, it does not matter whether the company's retail outlets are their own or franchises, and the logistics of how the trucking industry works is not important.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a manufacturer of white boards. The client ships the boards from its factories to its distribution center and then from the distribution center to all of its retail locations. To meet their shipping needs, the client presently uses in-house trucking services.

They have approached Bain & Company asking for advice as to whether they should look to outsource their trucking services instead.

Case Development

1. Framework
2. Discussion / Q&A
3. Cost-benefit analysis and additional brainstorming
4. Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #38: White Boards (2/5)

Framework

- In-house vs. outsourced scenarios: profitability and non-monetary considerations.

	In-house	Outsourced
Revenues	Same	Same
Fixed costs	Truck fleet, Insurance Truck maintenance, Fuel,	None
Variable costs	Salaries	Charge per lb of load
Other costs	Union costs	
Profit		
Non-monetary benefits	Better control on distribution/vehicle integration	Lower fixed costs, Lower # of employees required Dependency on outsourcing vendors
Non-monetary costs		

Risks of Outsourcing

- Availability of vendors (geography, volume, etc.)
- Quality control, loss of internal distribution practices
- Costs of product damage

Working hypothesis: The company should outsource their trucking. I would like to test this by comparing the costs associated with in-house vs. outsourced trucking. Do we have any data on this?

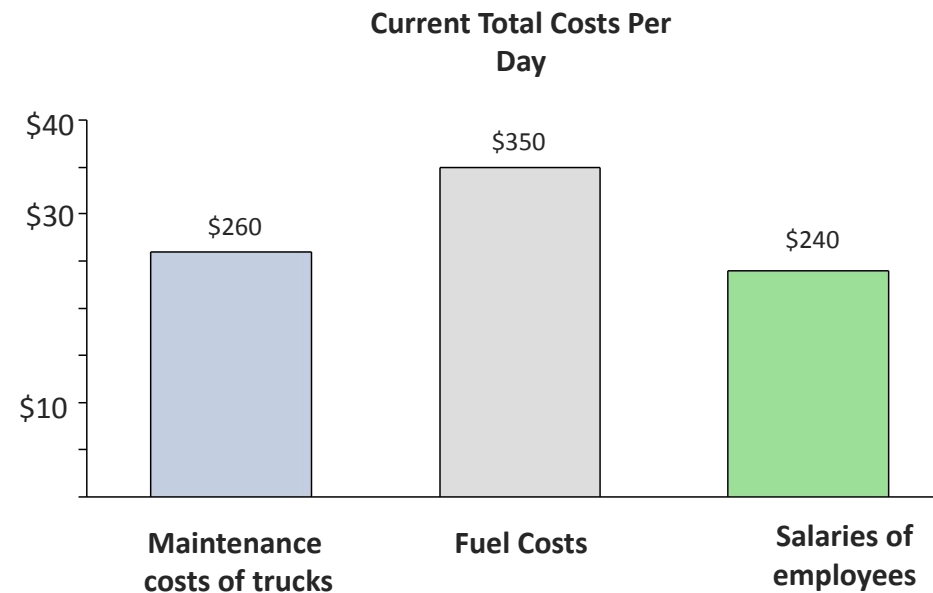
Interviewer Guidance

- Push the candidate to think about costs (there should be no assumed difference in revenue). A major cost of transport in this case is the damage to goods during transit.
 - Once the candidate gets that this is a major cost, ask why this would need to be included in the comparison. After all, if transportation damages occur in both cases, it does not need to be included for comparison.
 - The candidate should realize that, when outsourced, the external contractors will not be as careful while loading and unloading thus changing the percentage of the whiteboards that get damaged.
- Once the candidate has started thinking about costs, **share Exhibit 1** on the next page with current costs, and provide the following information out-loud:
 - The transit damage is 15% of the load when in-house trucking services are used.
 - For outsourcing trucking, the transit damage is 25% of the load.
 - Chart details:
 - This shows total costs, not per pound costs.
 - If the candidate does not recognize that the daily volume considered should be 100lbs. (50lbs. to the distribution center and 50lbs. to retailer), the interviewer should clarify this.
 - The candidate should initiate using the information you've given them to calculate the cost difference between in-house trucking and outsourcing (see p. 4 for calculation examples).

Case #38: White Boards (3/5)

Exhibit #1

The company ships 50 lbs. of white boards daily to the distribution center, and the distribution center ships the same amount to the retail stores every day. If outsourced, the vendor charges \$8.50/lb., irrespective of distance.



Case #38: White Boards (4/5)

Calculations

In-house Costs (Current Scenario):

- Costs per day
 - Maintenance (\$260) + Fuel (\$350) + Salaries (\$240) = \$850/day
- Loss in damages
 - 50 lbs. transported daily, round trip = 100 lbs.
 - 15% damage: -15 lbs.
 - Number of saleable white boards: 85
- Transportation cost per lb. of saleable white board = $850/85$
= \$10/lb./day

Outsourced Costs:

- Costs per day
 - \$8.50/lb. x 100 lbs. = \$850/day
- Loss in damages
 - 50 lbs. transported daily, round trip = 100 lbs.
 - 25% damage: -25 lbs.
 - Number of saleable white boards: 75
- Transportation cost per lb. of saleable white board = $850/75$
= \$11.33/lb./day

Interviewer Guidance

The candidate should use Exhibit 1 to perform a cost-benefit analysis by calculating the transportation cost per lb. of saleable white board per day under both sourcing alternatives.

Cost Comparison:

In-house: \$10.00

Outsource: \$11.33

(\$1.33) savings/lb./day (Costs more to outsource than transport in-house.)

- If candidate calculates daily savings quickly, push them to calculate what this would be for total volume per day, year, etc.
 - \$1.33 savings x 100 lb./day = \$133 savings/day
 - \$133 savings/day x 365 days per year = ~\$140 x ~350 days
= $(100 \times 350) + (40 \times 350) = (\$35,000) + (\$14,000) = \$49,000$
(exact answer is \$48,545)

Brainstorm:

Are there any non-monetary benefits to outsourcing our client should consider?

- Candidate potential responses may include:
 - Expanded geographic reach / ability to enter new markets.
 - Potential increase in daily volume capacity (if internal manufacturing can support it).
 - Better company focus on manufacturing vs. distribution may lead to higher manufacturing efficiency.

Case #38: White Boards (5/5)

Recommendations

- The company should keep trucking services in-house because:
- It costs an additional \$1.33/lb./day to outsource (~\$49K annually)
 - Outside of delivery costs, in-house delivery leads to fewer damages and more boards to profit from overall.
 - Company can invest in R&D on damage reduction and provide additional incentives / training to employees to reduce in-house damages during transit (additional brainstorm information can be used here)

Brainstorm: Optional

After performing the calculation, ask the candidate for recommendations and solutions to help reduce loss of saleable boards due to damage incurred during transit.

- If asked, the boards come in 3 sizes – small, medium, and large. The small boards are rarely damaged during transit while rate of damage is highest for large boards, which are bulky.

Potential responses:

- Internal
 - Invest in R&D for damage reduction practices (examples: better packaging, better loading practices, making white boards more modular so they can be transported in smaller parts that are less likely to be damaged).
 - Incentivize employees to reduce damages.
 - Provide additional training to delivery employees.
- External
 - Review contract terms with outsourcing provider to reduce our client's liability / costs for damages.
 - Conduct secondary research to select outsourcing delivery service based on damage reputation / history / guarantees.

Risks and Next Steps

Risks

- Cost of internal changes to reduce damages may outweigh benefit of reduced transit damage
- Long-term dual focus on manufacturing and shipping may reduce growth / efficiency

Next Steps

- The company can analyze costs associated with reducing damages during internal transit by the following methods and select the best option(s) to pursue:
 - Making white boards modular and transport them in smaller parts to be reassembled
 - Using better packaging and cushioning to reduce damage during transportation
 - Negotiating with outsourcing firm for them to bear losses during transit
- Create long-term plan for growth and determine necessary implementation targets to achieve goals while maintaining efficiency

Overall	Quant	Creativity
2	2	1

Case #39: Telco Talks

Case Type:
Merger & Acquisition

Accenture – Candidate Driven

Industry:
Telecommunications

Concepts Tested:

- Synergies
- Attrition

Case #39: Telco Talks (1/5)

ACCENTURE – Round 1 – Candidate Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Mergers & Acquisitions

Telecommunications

Telecom Company

Fit Questions

- What do you want me to know about you?
- Describe your dream project at X Firm.

Interviewer Guidance

This case focuses on a candidates ability to determine the marginal increase in profitability based on purchasing assets of another company. Additionally, it poses the question of whether or not entering on a national level is worthwhile, or if they should continue to stay in their market where they have been very profitable.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is a large telecom company that operates in the Midwestern region. They focus on providing 3 primary services: phone, TV, and internet. They have already taken several cost cutting initiatives, and now are currently exploring new growth opportunities. They've been approached by another telecom company (WIT Co) to purchase WIT Co's assets and customer base, which would transform our client from a regional player to a national player.

Our client therefore has asked us whether or not they should proceed with purchasing WIT Co's assets.

Case Development

- Data sheet discussion
- Questions 1-4
- Brainstorming
- Recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #39: Telco Talks (2/5)

Framework

Working hypothesis: I believe that the client should purchase WIT Co's assets given the following considerations.

WIT Co is healthy

- Profitability
 - Revenue and Costs
- Size, growth
 - Access to more national customer base
- Market position
- New capabilities
 - Better tech, faster speeds, reliability (phone, TV, and internet)

Purchase is financially positive

- Cost of acquisition
- Cost-benefit analysis for client
 - ROI / BE / NPV

Combination is better than alone

- Cost synergies
 - Scale
 - Combined customer services/marketing

Risks

- Government antitrust suits
- Cultural fit
- Geographical expansion: additional infrastructure needs

Additional Information

The candidate should write out a complete framework. If asked, the following information can be provided before the candidate structures their thoughts.

Company

- Goal is to grow while maintaining margins on customer basis.
- Background: assets are concentrated in 3 states – CA, NY, FL.

Customers

- Are both residential and business.

After candidate completes the discussion of their framework, the candidate should drive toward inquiring about the financial position of the client and acquisition target. If not, make sure to provide to the information below to the candidate before moving on to Question 1.

Current Client

- Revenue of \$8.5B
- Costs of \$7.5B
- 5M customers

WIT Co (acquisition target)

- Revenue of \$5B
- Costs of \$4.55B
- 3.6M customers

Case #39: Telco Talks (3/5)

Question 1

What is the profit and who is the customer for the current and combined companies? Compare the two and determine whether or not to buy the assets.

If the candidate struggles, guide them to calculate the profitability on a per customer base. Although not tested in this case, telecom cares highly about churn.

	Current Client	WIT Co	Combined
Revenue	\$8.5B	\$5B	\$13.5B
Costs	\$7.5B	\$4.55B	\$12.05B
Profit	\$1B	\$450M	\$1.45B
Customers	5M	3.6M	8.6M
Profit/Cust	\$200/cust	\$125/cust	\$168.6/cust

Question 1: Continued

The candidate should recognize that the result of purchasing the assets would yield a lower profitability per customer than without the assets. A great candidate would jump into a brainstorm of how to lower costs after purchasing. However, steer candidate with the following prompt:

Let's say that if Telco purchases WIT Co's assets, they believe that they can save \$500M in costs due to a leaner labor force and to utilizing certain contracts that they currently have. Would the acquisition still be worthwhile?

The candidate should recalculate but only using the combination

	Combined with Synergies
Revenue	\$13.5B
Costs	\$12.05B - \$0.5B = \$11.55B
Profit	\$1.95B
Customers	8.6M
Profit/Cust	\$226.74/cust

The candidate should recognize that the new profit is higher than the previous combined calculation and that the acquisition is worthwhile.

Case #39: Telco Talks (4/5)

Question 2

The candidate should drive to the acquisition price of the assets. If they do not, give them the following prompt:

What is the maximum amount that they should pay for WIT Co's assets?

- The candidate should recognize that they need to use a perpetuity calculation to determine the benefit of the acquisition for the client. Therefore, the maximum the client should pay is the perpetuity of the additional profits from WIT Co and the synergies they receive.

Calculation

Total additional profit from acquisition is:

$$\$450\text{M (WIT Co)} + \$500\text{M (synergies)} = \$950\text{M/year}$$

Guidance

- Assume profitability is constant in perpetuity
- Assume a 12% discount rate
- Assume 2% growth into the future (mature market)
- Candidate should realize discount = 10% (12-2)

$$\text{Perpetuity} = \$950\text{M} / 0.1 = \$9.5\text{B}$$

Brainstorm

What are some benefits and risks that you would want to consider when giving a final recommendation?

The following is just a sample framework of this brainstorm. There are many categories they can consider and several ideas from the candidate's original case framework can be used here to support their response.

In addition, the candidate should explain why each bullet is important when discussing their brainstorm framework.

	Benefits	Risks	Mitigation
Customers	Access to wider base Quicker growth	Customer attrition – assumption on revenue Lower customer service	Preempted notification to existing base
Employees	Obtain trained staff / additional skill set	Employee attrition Company culture (merged cultures)	Offer critical employees incentive Launch culture initiative
Products	Diversification of products Purchase of I.P.	Lose sight of primary products Market growth – assumption on growth rate	Create post merger integration plan

Case #39: Telco Talks (5/5)

Once the risk benefit brainstorm is complete, ask for a recommendation:

“The CEO is about to walk into the room and has asked us for a recommendation. What would you tell them?”

A potential response could be:

- The client should acquire WIT Co’s assts for up to \$9.5B
- We can capture \$950M in additional profit a year
- This is due to an increase in profits of approximately \$26/customer

Risks and Next Steps

Risks

- We will not maintain the existing customer base which gives us the additional profit
 - Attrition could result from differences in service availability / quality
- Market will not maintain its current pace as we considered a specific growth and discount rate
- Synergies don’t decrease costs as expected

Next Steps

- We should do a customer survey to see what customer retention would be like
 - Develop post-merger integration plan
- Perform a market analysis to ensure that we can expect a growth rate of 2% and a discount rate of 12% (overall discount rate of 10%)
- Perform detailed due diligence to confirm estimates / secure synergy cost reduction

Evaluation

- This case tests a candidate’s ability to determine the benefits and risks of an acquisition, including a determination of whether an entry into a larger market would actually be beneficial for the company.
- A good candidate will anticipate the risks of the assumptions made. Specifically, the candidate will consider the risks associated with the assumption of a consistent customer base, which yields the additional profit anticipated, as well as the assumption around the discount rate, which, when altered, drastically changes the price the client is willing to pay for the acquisition.

Overall	Quant	Creativity
1	1	1

Case #40: Yachmout Yachts

Case Type:
Legal Analysis

Cornerstone Research – Candidate Driven

Industry:
Luxury Retail

Concepts Tested:

- Economic Damages

Case #40: Yarmouth Yachts (1/7)

CORNERSTONE – Round 1 or 2 – Candidate Led

Fit Questions

- What are your long-term goals?
- Tell me about a time you made a significant impact on a team.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Yarmouth Yachts is a publicly-traded luxury boat builder (\$2M avg. selling price). The company experienced rapid earnings growth and share price appreciation during 2005 and 2006. See Exhibit 1 for an overview of Yarmouth's sales process. **(Provide Exhibit 1 after prompt.)**

Over the course of 2006, management revised its FY06 earnings guidance upwards and maintained guidance of 20% earnings growth for FY07. On December 12, 2007, Yarmouth released record FY06 results that surpassed earlier guidance (89% net income growth) and revised its FY07 projection to 2 – 11% growth. Its stock closed at -22% for the day. **(Provide Exhibit 2 after prompt.)**

Following the stock drop, a class action suit was filed alleging that executives inflated Yarmouth's stock price during the time period from January 9, 2006 to December 12, 2007 (1/9/06 – 1/12/07) by withholding information about a decline in showroom visits. This was the only allegedly concealed information. The plaintiff's allegations were the following:

- Misleading investors about growth prospects.** Company revised FY07 estimates down from 20%.
- Withholding crucial information.** Plaintiffs allege executives had material inside information about a decline in customer showroom visits that would cause a decline in FY07 income. Yarmouth discloses the value of new contracts on a quarterly basis, but not showroom visits.

Cornerstone has been retained by Yarmouth's counsel to develop economic responses to the allegations. What types of questions would we want to ask to assess the reasonableness of the plaintiff's claims?

- (If the candidate asks for specific financial information, you should state that this is not necessary to complete the case. Details about Yarmouth's strategy and operations are also outside the scope of the case.)

Interviewer Guidance

This case is provided by Cornerstone Research, an economic and financial consulting firm providing analysis /expert testimony in commercial litigation and regulatory proceedings. Thus, the case has a legal component which may not be seen in other types of case interviews. Also, a traditional framework is not necessary for this case as it develops through a series of questions and answers.

Quant Level - LIGHT

Case Type	Industry	Client Type
Legal Analysis	Luxury Retail	Luxury Yacht Manufacturer

Case Development

- Case Prompt
- Evaluating Stock Price Drop
- Evaluating Net Income
- Calculating Damages
- Conclusion

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #40: Yarmouth Yachts (2/7)

Exhibit 1

**Exhibit 1:
Purchase and Delivery Process**

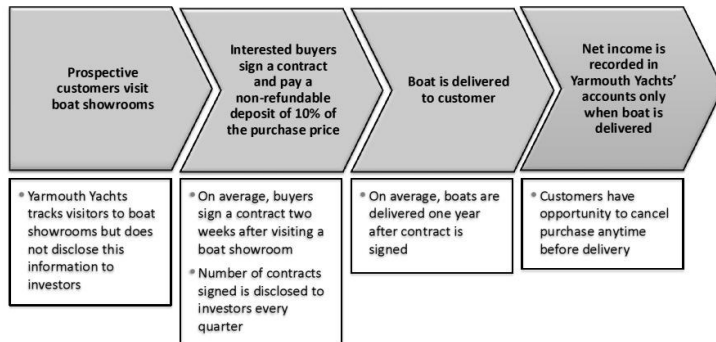
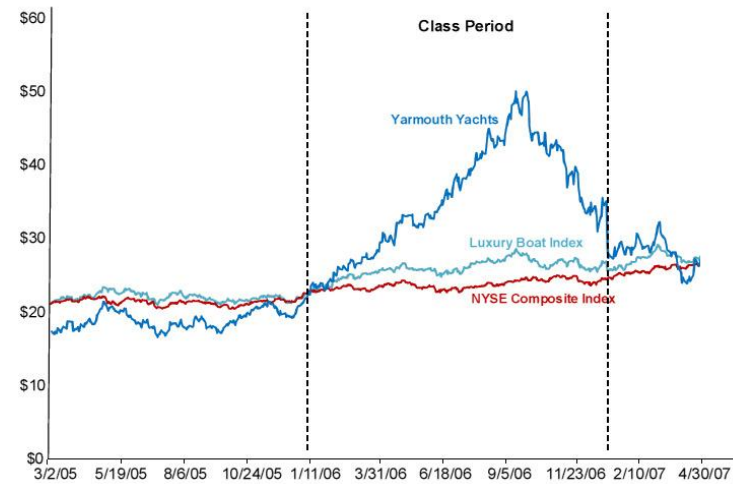


Exhibit 2

Exhibit 2: Yarmouth and Market Price Chart



Case #40: Yarmouth Yachts (3/7)

Sample Response

- The following includes some of the areas the candidate may want to investigate. If the candidate does not bring up this areas on their own, ask the questions to the candidate. When the candidate provides a response, ask for specific examples / factors.
- 1) *Did the disclosure cause the stock price to drop? Are there alternative explanations?*
 - Examples: Market, industry, or other firm-specific factors
- 2) *If not fraud, what other reasons could justify the 2007 guidance revision?*
 - Examples: Economic slow-down, change in consumer preferences for boats, increased competition, etc.
- 3) *Was the information known to insiders [i.e. the decline in customer showroom visits] important for the market to know? Do the allegations matter?*
 - It is important for the market to know about such information only known to insiders as this is potentially an indicator of overall company growth. It looks like factors, such as the decline in customer showroom visits, might be important information that is hidden as evidenced by the decline in stock price in 2006. But, more analyses should be done to conclude this.
 - Based on Exhibit 1, we do not have any numbers which indicate that every customer who visits the showroom signs a contract or even that a large number that visits signs a contract. It would be great to have information on the number of people that visit and on the number of conversions. Additionally, it would be a great next step to analyze the direct impact of customer visits on net income.
 - The allegations matter as it is extremely important that accurate financial information regarding the growth prospects of a company be reported to investors. However, whether the allegations are material is a different point that requires further analysis.
- Note: Candidates may not ask the above questions initially. After some probing, the interviewer may provide them with the question and / or relevant information.

Case #40: Yarmouth Yachts (4/7)

Question 1

Ask the candidate the following:

What analysis could we do to evaluate other possible causes for the stock drop? What data would we need?

- The candidate should ask if there are market or industry variables that can explain the stock drop. This analysis requires returns data for Yarmouth, a broad market index such as the NYSE, and an index of comparable companies. Refer the candidate back to the price chart in Exhibit 2.
- The take-away is that market and industry factors do not appear to fully explain the stock price drop because the indices are flat or have much smaller relative declines than Yarmouth on the disclosure day.
- Explain that the burden of proof is on the plaintiffs to rule out other possible causes for the share price drop. Plaintiff's argument does not control for market or industry factors.

Question 2

After discussing the stock drop, ask the candidate this follow up question:
What analysis could we do to evaluate the claim that the Executives had inside information and allegedly knew the company's net income would eventually decrease?

- This question addresses the relationship between showroom visits and net income. Remind the candidate that Yarmouth discloses contracts signed on a quarterly basis, but not showroom visits.
- The correct response is to build regression models to analyze the relationship between net income, contracts, and visits.
- After getting this response, ask the candidate to interpret the regression output in Exhibit 3 (this step is optional; **show candidate Exhibit 3 if proceeding with analysis**).
 - The conclusions the candidate should draw is that contracts are sufficient predictors of net income and that disclosure of showroom visits is not material. After controlling for lagged showroom visits and contract value (Exhibit 3, Regression 3), contract value is the only statistically significant predictor of net income.

Case #40: Yarmouth Yachts (5/7)

Exhibit 3: Optional

Exhibit 3: Regression of Net Income on Contracts and Showroom Visits

	(Regression 1) Net Income	(Regression 2) Net Income	(Regression 3) Net Income
Showroom Visits^[1]			
3 Quarter Lag ^[3]	-0.01 (0.03)		0.00 (0.00)
4 Quarter Lag	0.10 ** (0.04)		0.02 (0.02)
5 Quarter Lag	0.01 (0.02)		0.01 (0.00)
Contract Value^[2]			
3 Quarter Lag		0.04 (0.04)	0.03 (0.04)
4 Quarter Lag		0.43 ** (0.08)	0.41 ** (0.07)
5 Quarter Lag		0.03 (0.06)	0.01 (0.07)
Adjusted R²	0.57	0.79	0.82

Note: ** denotes statistical significance at the 99% level. Standard errors shown in parentheses. Net income and contract value measured in millions of US dollars.

[1] Showroom Visits represents the number of customer visits to Yarmouth Yacht's showroom during a given quarter. Showroom visits are measured in thousands.

[2] Contract Value represents the value of new customer contracts signed by Yarmouth Yachts in a given quarter.

[3] The Quarter Lag variables represent observations from quarters preceding the Net Income observation. For example, Showroom Visits - 3 Quarter Lag represents Showroom visits that took place 3 quarters before Net Income was reported.

Case #40: Yarmouth Yachts (6/7)

Question 3

Regardless of any discussion of the regression analysis in Exhibit 3, ensure that the candidate now knows that, in actuality, the showroom visits do not matter and that it is only the contract value that predicts net income.

Ask the candidate the following question:

The plaintiffs have argued that each investor owning shares on December 12, 2007 should be repaid for the full price drop on the corrective disclosure day. Based on an \$8 price drop and 155MM shares outstanding, please calculate the potential damages for Yarmouth.

$$\$8 * 155\text{MM} = \$1.2\text{B}$$

Then ask:

Is this a reasonable amount? How can we reduce the potential damages for Yarmouth?

Interviewer Guidance

There are two approaches to address:

- Control for other factors in returns.** Build a model to estimate what the return would have been had the corrective disclosure not been made (the “but-for” price). A predicted decline helps explain / can partially offset the price drop on the disclosure day.
- Exclude shareholders who were not affected by the alleged price inflation.** This group includes (i) anyone who bought and sold before the alleged disclosure date, (ii) shares held by Yarmouth Executives, and (iii) shares held throughout the entire class period.

Sample Calculation

Provide candidates with the below data and ask them to calculate alternative damages:

- Actual return per share (price drop per share): \$8.00
- Modeled return (price drop per share based on market factors): \$4.00
- Damaged shares (shares that don’t include people in point 2): 25 MM

Calculations:

Plaintiff Style Damages:

$$(\$35.46 - \$27.46) * 155\text{MM shares} = \$1.2\text{B}$$



Alternative Damages:

$$(\$8.00 - \$4.00) * 25\text{MM shares} = \$100\text{MM}$$



Case #40: Yarmouth Yachts (7/7)

Interviewer Guidance

End by asking the candidate to summarize the findings of the case.

Evaluation

The candidate should be able to clearly and succinctly discuss the findings of the case. They should also discuss the results of the analyses and explain how the analyses impact the case.

Recommendation

Key Findings

- Plaintiff calculations are overly broad and fail to account for the impact of market and industry factors on returns and shareholders who are not damaged.
 - Ex. The overall potential damages are \$100MM versus \$1.2B suggested by the plaintiffs. Shares bought and sold before the disclosure date were not damaged.
- Contracts are a sufficient predictor of net income and showroom visit data were not material as was alleged by plaintiffs. (In this case, regression analysis was used to test the materiality of showroom visits.)
- For damages calculations, a market model was used to partially offset the stock price drop on the disclosure day. The purpose of this is to estimate the share price return “but-for” the corrective disclosure.

Risks

- Financial and legal risk: while lower than \$1.2 billion, \$100MM in charges can be significant for Yarmouth
- Undetermined relationship between % of showroom visits and contract conversion
- Plaintiffs might debate the actual number of damaged shares

Next Steps

- Analyze company financials to determine if they can sustain such a payout in damages
- Analyze % of showroom visits that lead to contracts; identify trends for these data
- Find comparable cases where a company was sued for similar stock fraud to determine appropriate number of damaged shares

Overall	Quant	Creativity
1	1	2

Case #41: Sueno Mattress

Case Type:
Profitability

KPMG – Candidate Driven

Industry:
Consumer Products

Concepts Tested:

- Chart clearing
- Structured brainstorming
- Soliciting relevant data
- Market analysis

Case #41: Sueno Mattress (1/5)

KPMG– Round 1 or 2 – Candidate Led

Fit Questions

- Describe your ideal team working environment?
- Tell me about a time when you had to make a decision without all of the information you wanted or needed.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Sueno Mattress is a top 5 US mattress manufacturing company.

The company has seen steady growth in recent years, but has missed profit targets the past three quarters and the stock price is slipping. Thomas Scott, the CEO, has contacted KPMG Strategy for advice on how to respond to the company's current situation.

Interviewer Guidance

This case is a competitive strategy case in which an established player is losing profits due to customer purchasing habits (i.e. moving to lower priced, direct-to-consumer products). While the client has maintained revenue and volume above market growth, their units are now being sold at outlet stores at a discount resulting in smaller profit margins.

Through the course of the case we will seek to get the candidate's thoughts on:

- The overall market and competitive dynamics at play
- Potential reasons for client challenges
- Pros and cons of different channel distribution strategies
- Impact of shifting customer trends on a company/brand
- Suggested path forward to address these challenges
- Opportunities and risks associated with suggested path
- Immediate next steps for the client

Quant Level - LIGHT

Case Type	Industry	Client Type
Profitability	Consumer Products	Mattress Manufacturer

Case Development

- Case Prompt
- Evaluating Stock Price Drop
- Evaluating Net Income
- Calculating Damages
- Conclusion

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #41: Sueno Mattress (2/5)

Information to be disclosed

- **Sueno Mattress** has a varied product line, but can mostly be thought of as offering three main SKUs: Good, Better, Best.
- **Global market** = \$30B growing at a CAGR of 7%
- **Industry Value Chain:** Super-luxury brands **distribute** their products via their own stores, while most other players rely on furniture stores and mattress stores to reach consumers.
- **Customer Trends:** In the past five years, a number of new players have entered the market with an online direct-to-consumer model, offering lower prices to consumers and driving down customer willingness to pay full prices across the industry

Data only if requested

- **Sueno** distributes its products through **three major channels**:
 - Furniture stores (i.e. Ashley Furniture, Rooms-to-Go)
 - Mattress stores (i.e. Mattress Firm)
 - 300 client owned Luxury stores across North America (i.e. Sueno Branded Stores)
 - Channel sales mix is in-line with other major players
- **Average Sueno Mattress Sales Price**
 - Furniture stores: \$1,000
 - Mattress Stores: \$850
 - Sueno Branded Stores: \$1,150
- **Global Market Segmentation**
 - Asian market: 12% CAGR
 - US market: 5% CAGR
 - RoW markets: 8% CAGR
- **2016 Annual Sales Data:**
 - Mattresses Sold: 3M
 - Revenues: \$3B
- **2017 Annual Sales Data:**
 - Mattresses Sold: 3.15M
 - Revenues: \$3.09B
- **Pricing:** Sueno has not dramatically changed its own store pricing
- **Product Mix:** Has not dramatically changed over last 5 years
- **COGS/Ops. Costs:** Sueno has not seen any significant increase in product costs

Case #41: Sueno Mattress (3/5)

Sample Response

Frame problem, approach and hypotheses:

The candidate should frame the client problem and begin to formulate a hypothesis to prove/disprove and drive the analysis.

- There are multiple possible explanations behind declining profitability including, but not limited to decreasing revenues, decreasing market share, decrease in price, increasing costs, etc.
- The candidate should identify what analysis needs to be done to identify the underlying cause of the problem and determine a strategic approach to advise our client such as price, volume, cost analysis; competitive landscape; customer trends/need, etc.

Question 1

Ask the candidate the following:

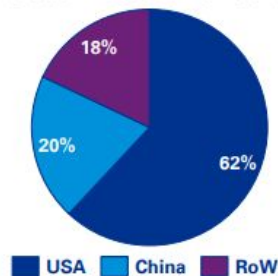
What analysis could we do to evaluate the industry and potential cause of profitability decline?

Interviewer should steer the candidate to look into their identified potential causes of profitability decline. Refer below to various data sets to support their analysis.

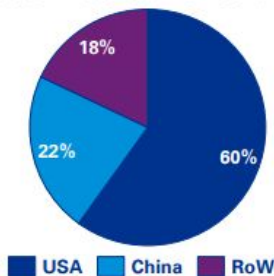
- The order and depth of discussion on the following bucketed topics will likely vary from candidate to candidate.

Global market data *(do not share handout):*

Global Mattress Market 2016



Global Mattress Market 2017



2016 Market Size
\$50B

Market	CAGR
Global	7%
United States	5%
China	12%
Rest of World	8%

- A good candidate might identify:
 - The US is losing market share to other regions
 - The loss is due to a slower growth compared to other regions
 - Sueno (our client) is focusing on the slowest growth area

Case #41: Sueno Mattress (4/5)

Question 2

Ask the candidate the following:

What analysis could we do to evaluate the client sales & financials?

If candidate requests historical financial data for Sueno provide the 2016/17 sales numbers provided in Databank. The interviewer should prompt the candidate to calculate YoY volume & revenue growth % (to determine if performance is above, below or behind competitors/ market). The interviewer should have the candidate walk through the logic and assumptions. There are multiple ways to estimate the value, but a sample calculation is provided below.

- 2016 to 2017 YoY growth:
 - Units Sold: $(3.15M - 3M)/3M = 5\%$
 - Revenue: $(\$3.09B - \$3.0B)/\$3.0B = 3\%$

Candidate should be able to identify Sueno's volume growth is in line with US market, but lags behind China and Rest of World. Also, the gap between revenue and volume growth should be noted.

Candidate will likely request pricing information, so the interviewer should prompt the candidate to calculate estimate the value per unit. There are multiple ways to, but a sample calculation is provided below:

- Average revenue per sale per year:
 - 2016 Avg. Price/unit: $\$3B/3M = \$1,000$
 - 2017 Avg. Price/unit: $\$3.09B/3.15M = \$980+$

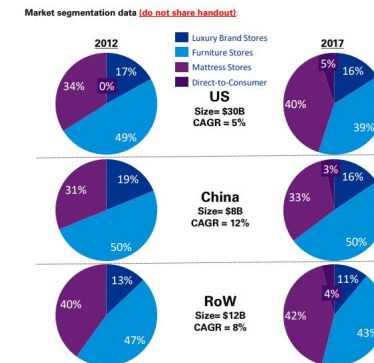
It may not be necessary for candidate to accurately complete the calculation for 2017 average sales price, but they should be able to set up the equation and note that the average price has obviously fallen below \$1000/unit.

If prompted, inform candidate that other areas of potential analysis (e.g. variable costs, fixed costs, overhead) appear to be unchanged and prices remain unchanged.

Question 3

After discussing industry trends and client sales/financials, ask the candidate to analyze the Channel Trend Data.

The interviewer should steer the candidate to look into segmenting the market data by channel segment and region. Refer below to various data sets to support their analysis. *Note:* Based on how the candidate frames the issue, either provide market segmentation data (as shown in graphs) or share the 2012 -2017 change (i.e. -10% change for US Furniture stores).



- A good candidate might identify:
 - The emergence of direct-to-consumer as a new sales channel
 - The Luxury and Furniture Store segments are shrinking
 - The Mattress stores segment is taking more share of sales
 - A greater portion of 2017 sales are coming from a channel with lower sales prices
 - The Chinese market, although growing faster, is only ~26% of the US market

The interviewer should push the candidate to outline thoughts on the impact of identified trends AND how the profitability decline may be mitigated based on the information provided.

Push the candidate to develop hypotheses and quantitatively determine what the largest value at stake opportunity is.

Case #41: Sueno Mattress (5/5)

Interviewer Guidance

Case Wrap-up: After the candidate has exhausted available data and completed the analysis OR the interview is running out of time, prompt the candidate to provide a summary of the findings for the client and provide a recommendation to increase profitability.

Evaluation

The candidate should be able to clearly and succinctly discuss the findings of the case. They should also discuss the results of the analyses and explain how the analyses impact the case.

Recommendation

Select recommendations

- **Introduce new product** to meet demands of growing “direct-to-consumer” market
- **Reposition brand** to meet changing customer needs (i.e. target “luxury” customers”)
- **Expand geographically** to take advantage of global market growth in higher priced sales
- **Analyze same store sales** (owned stores) to determine if low performing stores should be closed
- **Limit availability of product** to mattress retailers (depends on brand strength)

Risks

- **Introduce new product:** Cannibalism to higher margin products? What are key criteria for success? Impact on brand reputation? Can costs be cut to maintain margin?
- **Expanding geographically:** Pulling out of US, brand impact, investment cost? How would we do it? Market knowledge?
- **Repositioning brand:** Can our cost structure support this? Will more low price sales offset lost high price sales in own stores/furniture stores?
- **Limit availability of product to mattress outlets:** Is our brand strong enough to drive consumers towards owned stores and dept. stores to find our product?
- **Limit discount % allowed by retailers:** Is our brand strong enough to maintain volume at higher prices? Price elasticity of consumers?

Overall	Quant	Creativity
3	2	3

Case #42: Cruise Line Acquisition

Case Type:
Profitability

Student Submitted – Candidate Driven

Industry:
Travel & Tourism

Concepts Tested:

- Brainstorming
- Chart clearing
- Math structuring

Case #42: Cruise Line Acquisition (1/7)

Student Submitted – Candidate Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Profitability

Travel & Tourism

Cruise Line

Fit Questions

1. Tell me about a conflict that you have had in the workplace.
2. Tell me about your most rewarding accomplishment.

Interviewer Guidance

The primary objective is to determine if it is feasible to increase profitability of the acquisition target. The goal is to move from 10% to 40% EBITDA. Do not disclose target unless asked.

This is a straightforward profitability case that is good practice for the candidate to drive the case forward. Not much guidance should be necessary.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client is FunCruiseLines, a major cruise line headquartered in the United States. They are currently considering acquiring a new, luxury cruise line, FSC (Fancy Small Cruises). Before doing so, they would like to determine if there is room to increase profitability of FSC.

They have asked us to come to a meeting with their CFO and tell them if we think this can be done.

How should we structure this case?

Case Development

1. Framework
2. Profitability analysis
3. Brainstorm
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #42: Cruise Line Acquisition (2/7)

Framework

Working hypothesis: FunCruiseLines will be able to increase profitability of FSC.

Will FunCruiseLines be able to increase profits?

- Expected Revenues per passenger per day
 - Ticket Sales
 - Excursions
 - Casino
 - Beverage
- Expected costs
 - Fixed – corporate salaries, office rent, shipboard salaries, fuel, port docking fees
 - Variable –food & beverage, excursion costs

Will efforts to increase profits be successful?

- Primary competitors
 - What is their profitability?
 - Will they respond?
 - Will efforts to reduce costs make us less competitive?
- Execution
 - What timeframe is needed to execute?
 - Will any capital investments be needed to reduce operating costs?

Interviewer Guidance

Candidates will take a variety of approaches to structuring an approach to this question. The primary things to look for are:

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should clearly demonstrate how the questions they’re asking are directed at answering the specific question of whether FunCruiseLines should acquire FSC.
 - It’s less important for the hypothesis to be backed up with evidence, since it’s so early in the case (though strong candidates will draw on their own knowledge and intuitions to develop preliminary insights about the potential for this acquisition).
- Is profitability the primary consideration?
 - The prompt is very clear that profitability is the deciding factor for management. It’s OK for candidates to discuss other considerations, but their primary focus should be on profitability.
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of the Cruise Line market and overall economic environment (e.g., COVID-19), rather than just generic ideas about profitability.

Case #42: Cruise Line Acquisition (3/7)

Revenue & Cost information

Revenues:

This case will be focused on costs, not revenues. While a great candidate will be able to list out expected revenue categories, they should be educated that FSC is an all-inclusive line, with revenues of \$1,000 per APCD (Available Passenger Cruise Day - this is a “unit revenue” for the Cruise Line industry). Gaming (casino) revenues can be ignored.

Costs:

Provide the candidate with exhibits 1 + 2 as requested. The candidate should be able to make assumptions on which cost categories should align with competitors (e.g., food) and which can align to the parent company. These are listed below. Provide guidance as needed, but ensure candidate explains their rationale for their choices.

Cost alignment:

- Align to parent company
 - Office rent
 - Fuel cost / barrel
 - Candidate should recognize this will not align on an APCD basis due to fewer passengers on board, however candidate should recognize the 10% cost reduction and apply accordingly
 - Shipboard salaries
 - Corporate salaries
- Align to competitors
 - Port docking fees – align to competitors because destinations are more luxurious than FunCruiseLines
 - Food & beverage
 - Excursions

Continued

The candidate should calculate totals for FSC, FunCruiseLines, and competition, as well as new costs to FSC after alignment.

Costs:

FSC (pre): \$900/APCD
 FSC (post): \$650/APCD
 FunCruiseLines: \$200/APCD
 Competitor Avg: \$660/APCD

Itemized costs:

Corporate salaries: \$10/APCD – align to parent
 Office rent: \$5/APCD – align to parent
 Fuel cost: \$45/APCD – apply 10% discount to align to parent \$/bbl
 Shipboard salaries: \$220/APCD – align to competition
 Port docking fees: \$50/APCD – align to competition
 Food & beverage: \$100/APCD – align to competition
 Excursions: \$220/APCD – align to competition
 Total: \$650/APCD

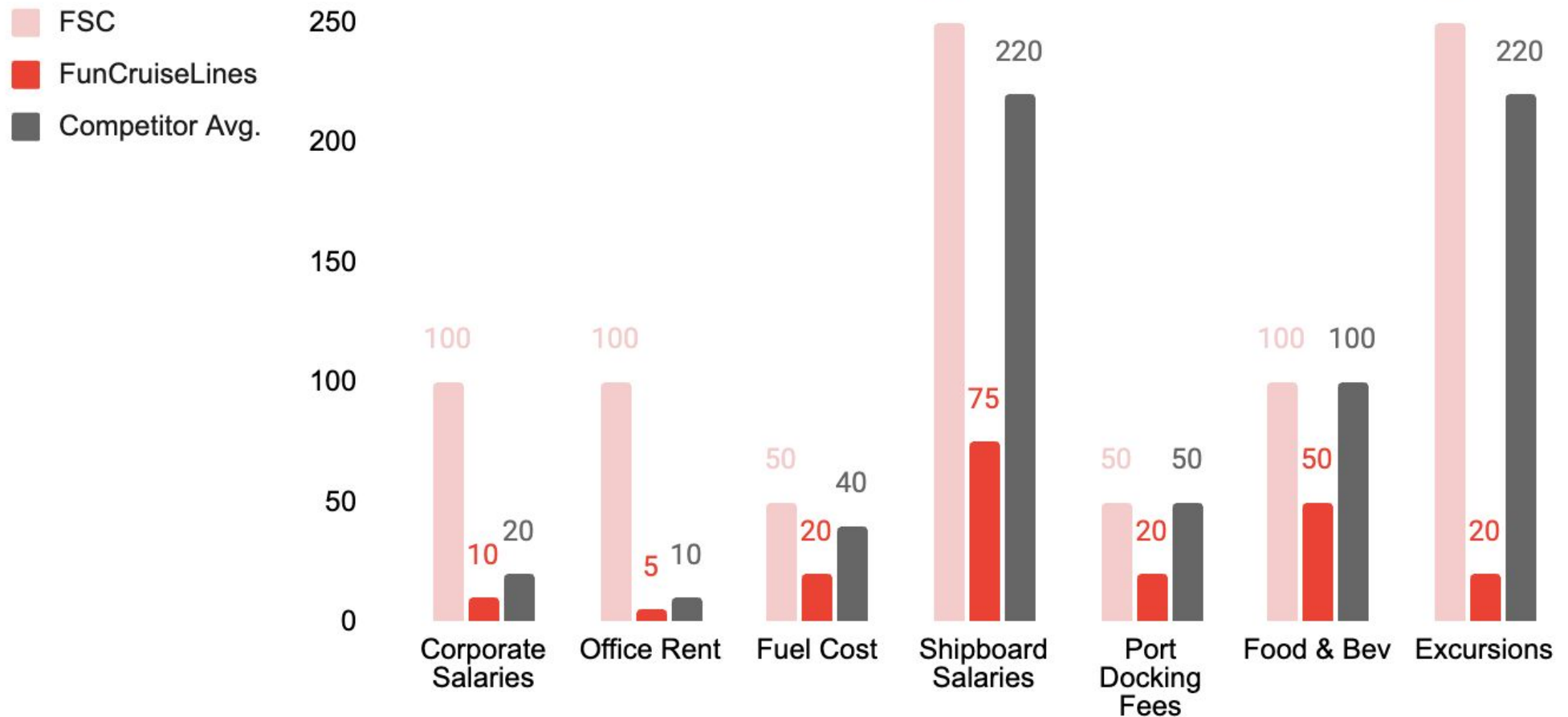
The candidate should note the stark difference between FSC and the parent company, however, this is not an issue as the parent company is a very different business (>2,000 passengers / ship).

The candidate should also note that this does not meet the margin requirements the parent company was interested in. The candidate can then be asked to brainstorm to come up with the idea of increasing the number of passengers / ship. At this point, present the candidate with exhibit 3.

Case #42: Cruise Line Acquisition (4/7)

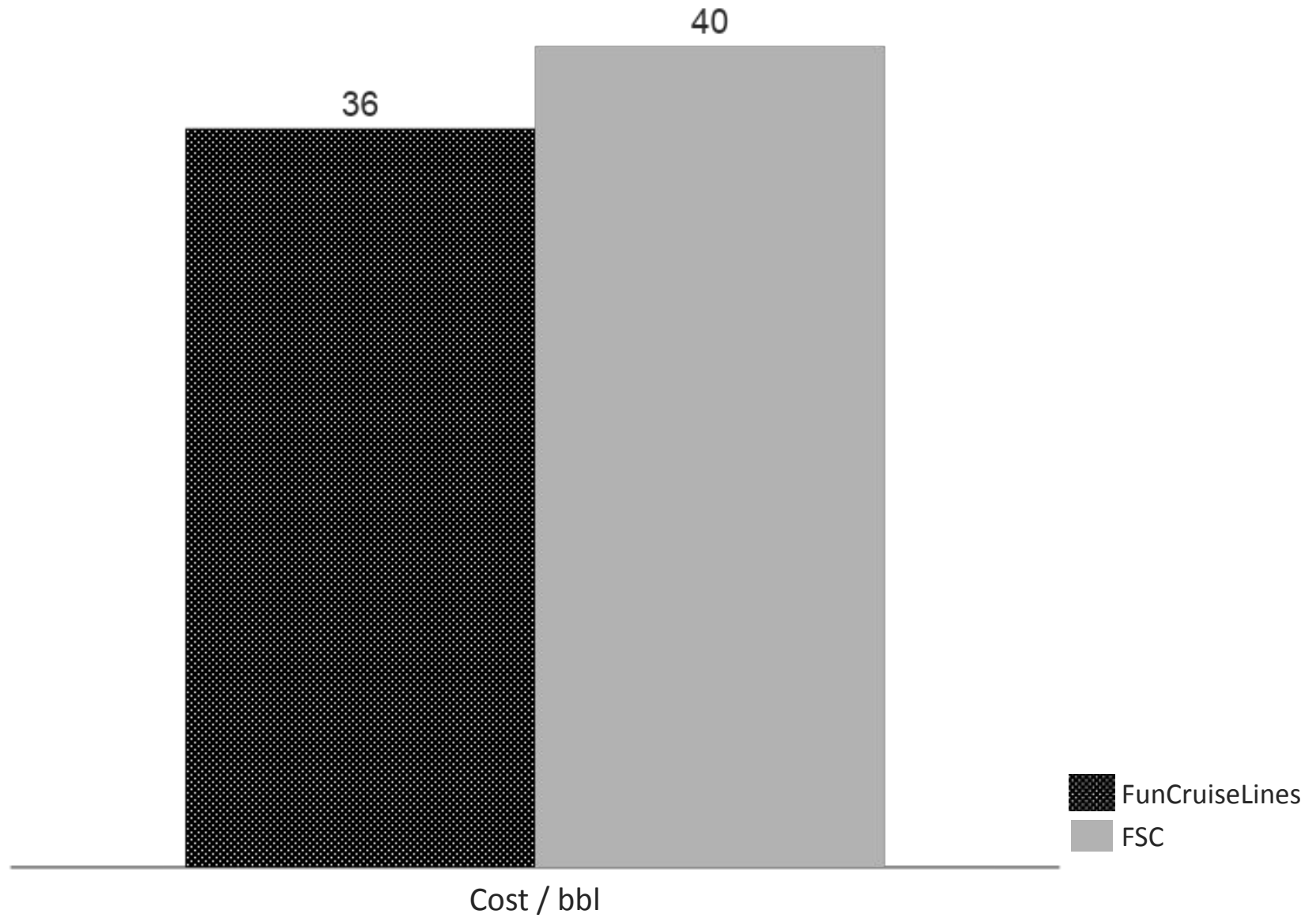
Exhibit #1: Costs per APCD

Cost per APCD



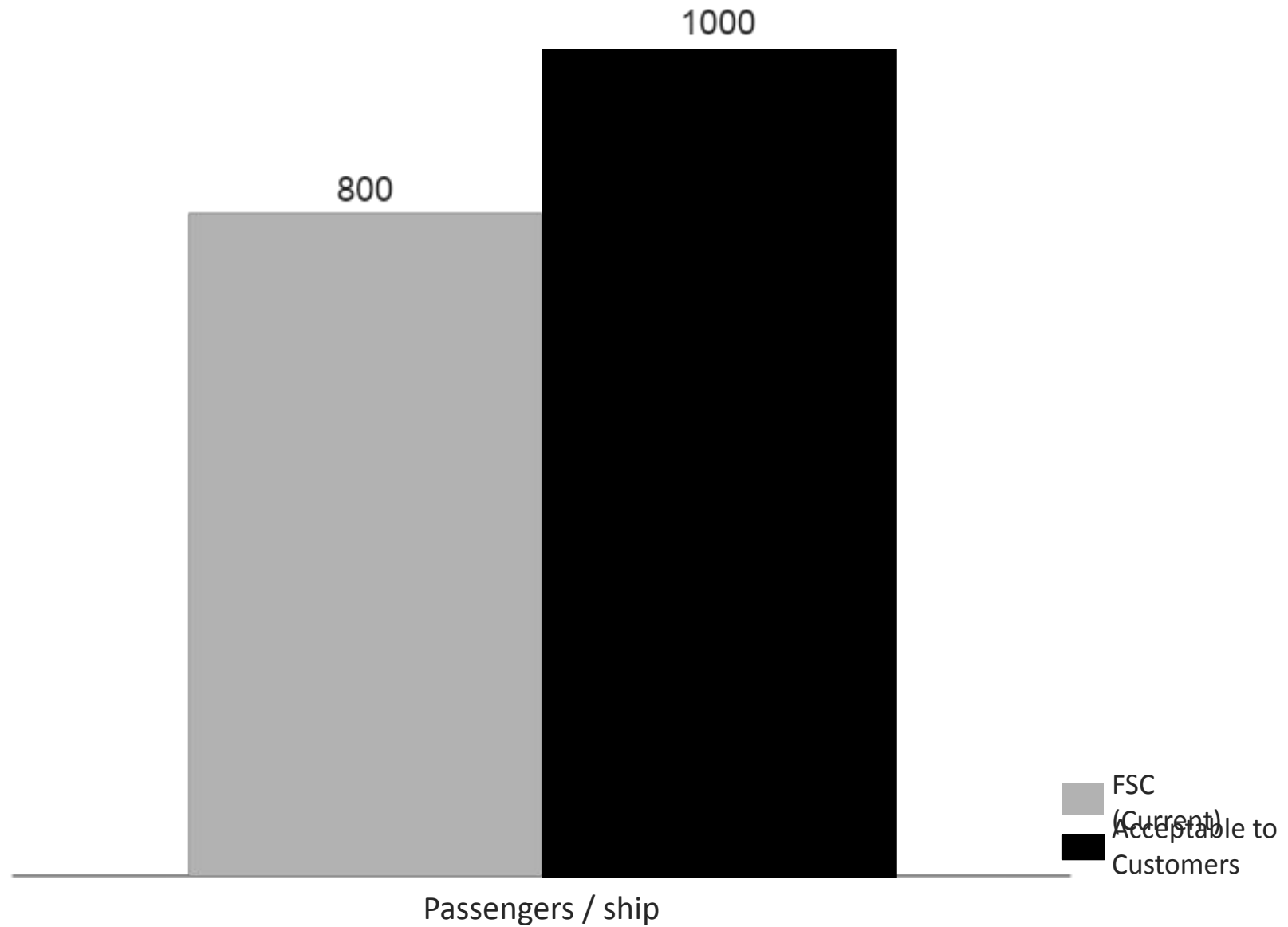
Case #42: Cruise Line Acquisition (5/7)

Exhibit #2: Fuel costs / bbl



Case #42: Cruise Line Acquisition (6/7)

Exhibit #3: Survey results



Case #42: Cruise Line Acquisition (7/7)

Passenger density

Once presented with exhibit 3, the candidate should recognize that only fixed costs will be adjusted, and that costs will be reduced 20%.

New costs:

Corporate salaries: \$8/APCD

Office rent: \$4/APCD

Fuel cost: \$36/APCD

Shipboard salaries: \$176/APCD

Port docking fees: \$40/APCD

Food & beverage: \$100/APCD

Excursions: \$220/APCD

Total: \$584/APCD

Recommendation

- Candidate should deliver the recommendation that the client should move forward with the acquisition as they can reach their EBITDA target of 40%+

Risks & Next Steps

- Candidate should recognize that reduced costs may reduce the customer experience, follow up with customer survey
- Candidate should recognize risks with combining corporate offices to ensure that the parent company can market & meet needs of luxury customers, follow up with staff survey and / or training

Overall	Quant	Creativity
1	2	1

Case #43: Shoe Co.

Case Type:
Market Entry

Bain & Company – Candidate Driven

Industry:
Consumer Product Goods

Concepts Tested:

- Chart clearing
- Root cause analysis

Case #43: Shoe Co. (1/7)

BAIN– unknown – Candidate Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Market Entry

Consumer Product
Goods

Retailer

Fit Questions

1. Tell me about a situation where you dealt with ambiguity?
2. Tell me about a time where you were required to motivate a diverse team?

Interviewer Guidance

This is a straightforward market entry case that is good practice for the candidate to drive the case forward. Not much guidance should be necessary.

Volume of sales can be understood as the average number of transactions within the store.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client, Shoe Co., is a small affordable luxury shoe retailer, branded as classic and fun. The average shoe sells at a price point of \$300 per pair.

Unfortunately, our client is facing a recent decline in the volume of same store sales despite the growth of same store sales for competitors. Our client hired us to understand the root cause of the client's same store sales decline?

Case Development

1. Framework
2. Profitability analysis
3. Brainstorm
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #43: Shoe Co. (2/7)

Framework

Working hypothesis: Shoe Co. is likely facing a decline in same store sales due to a misalignment with customer trends given that competitor growth indicates it is not an industry wide trend.

Framework should focus on drivers of same store sales including:

- 1) Market Dynamics
 - a) geographic considerations
 - b) industry wide trends
- 2) Customers
 - a) Customer trend information and preference
 - b) Where are customers falling out of the pipeline (coming to the store, checking out?, returns?)
- 3) Competitors
 - a) Competitor price points
 - b) competitor customer demographic
 - c) Competitor product differentiation

Interviewer Guidance

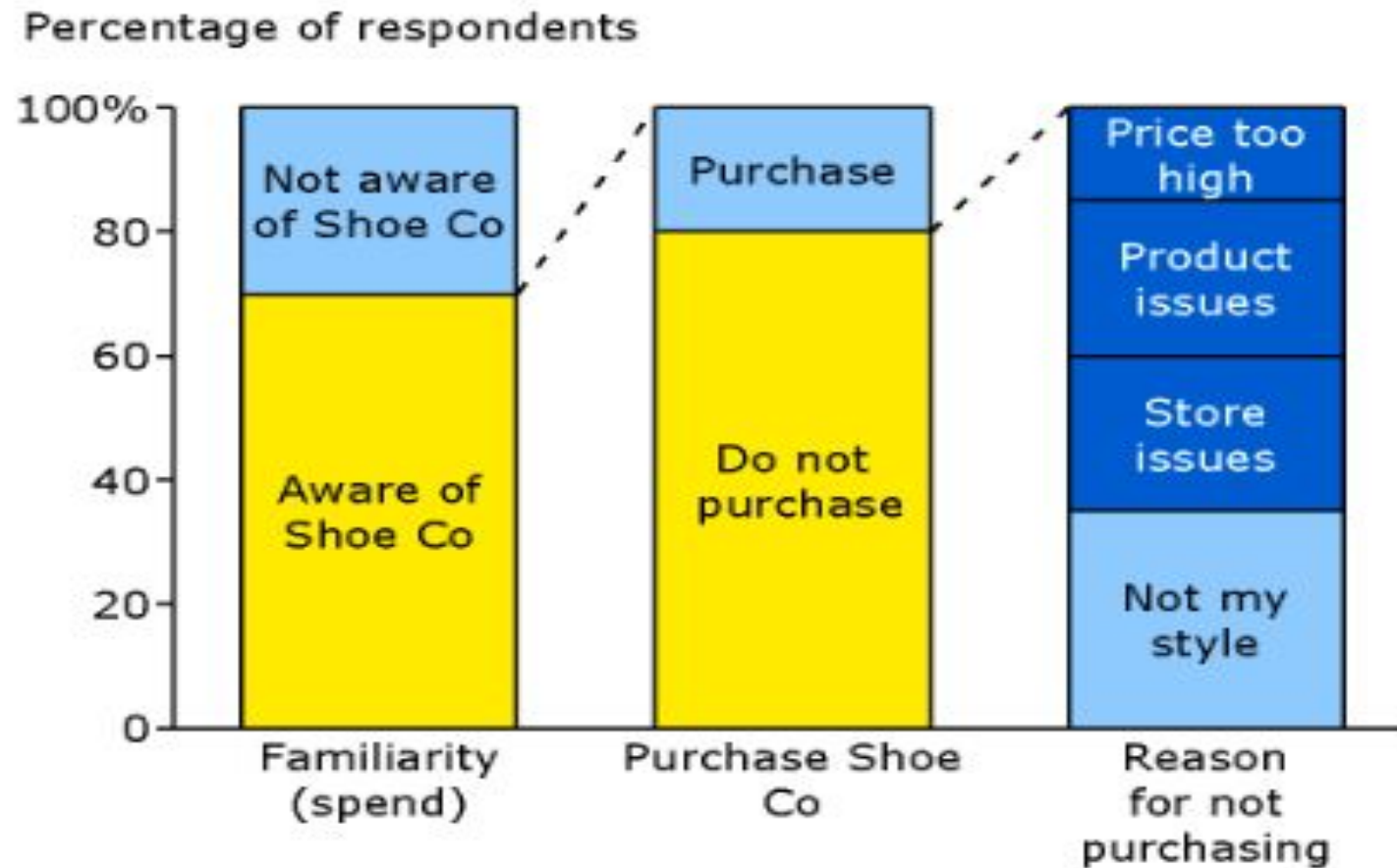
Candidates will take a variety of approaches to structuring an approach to this question. The primary things to look for are:

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should clearly demonstrate how the questions they're asking are directed at answering the specific question of what is the driver of Shoe Co's decline in same store sales
 - It's less important for the hypothesis to be backed up with evidence, since it's so early in the case (though strong candidates will draw on their own knowledge and intuitions)
- Is the identification of the root cause the primary consideration?
 - The prompt is very clear that same store sales are declining and the client wants to know the root cause.
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of the luxury shoe market and overall competitive environment .

Candidate should ask for information about either the competitors or customers, if they ask about the competitors steer them towards the customer information.

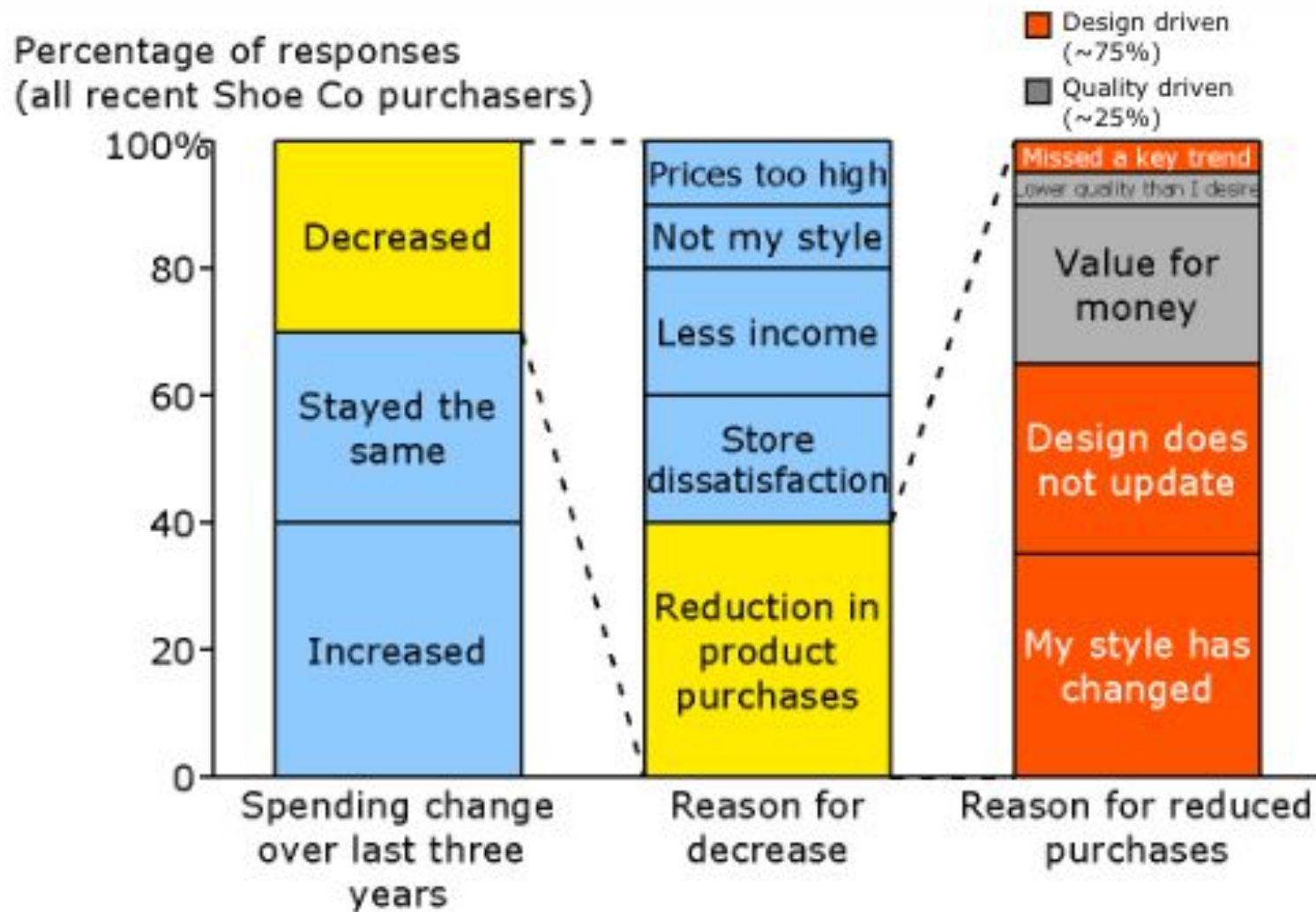
Case #43: Shoe Co. (3/7)

Exhibit #1: Consumer Survey Results



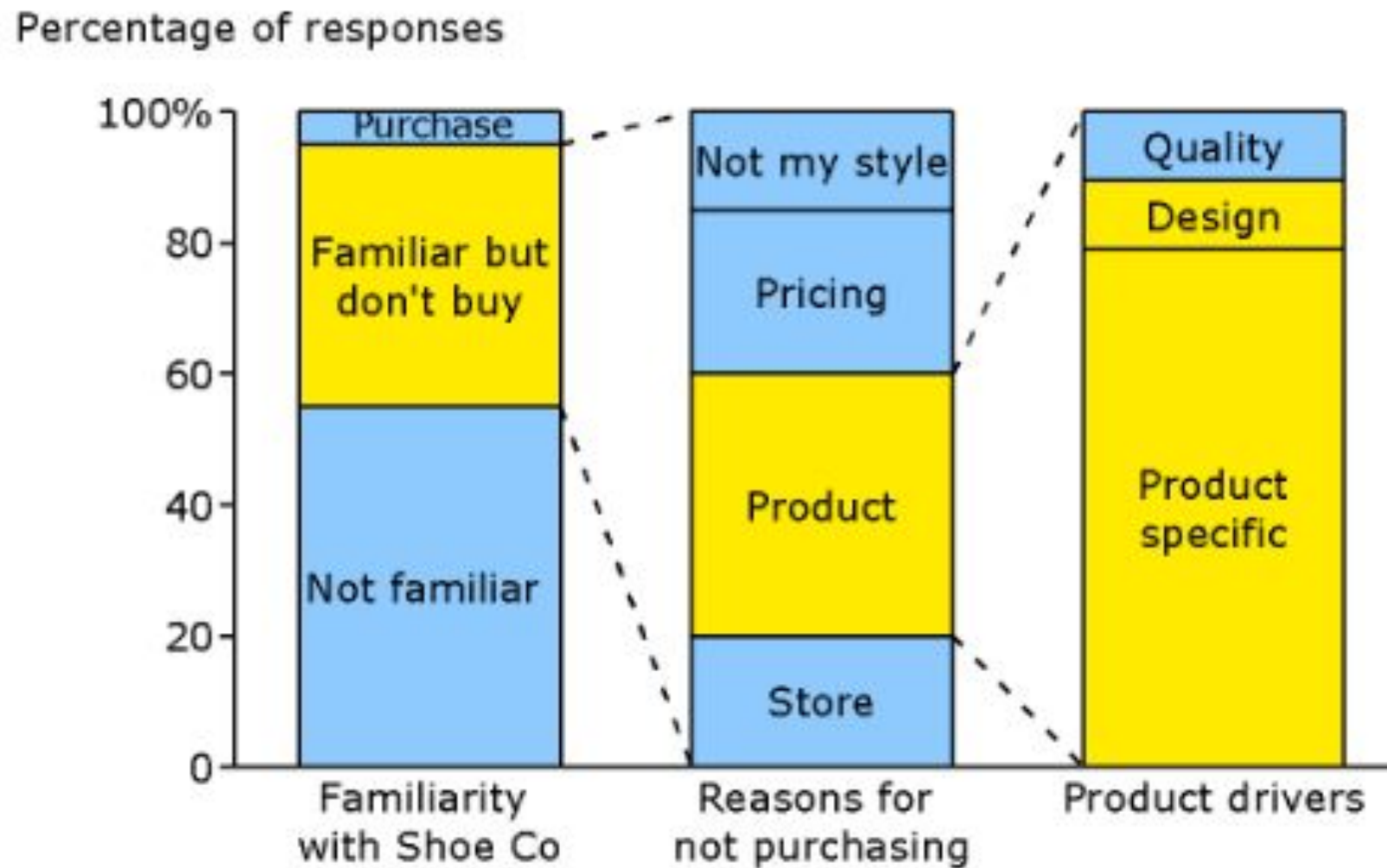
Case #43: Shoe Co. (4/7)

Exhibit #2: Consumer Survey Results



Case #43: Shoe Co. (5/7)

Exhibit #3: Consumer Survey Results



Case #43: Shoe Co. (6/7)

Exhibits

Exhibit 1:

- Candidate should note that Shoe Co. has a 70% consumer awareness
- But only a ~20% conversion rate to purchase

A strong candidate will ask for further information on this low conversion rate and if this is a recent or ongoing trend?

Exhibit 2:

- Candidate should note that this is a persistent trend that is due to a decrease in volume of purchases
- Candidate should see that ~30% (75% of 40%) decreased purchases for design reasons

Candidate should ask if there is more information around the product design

Exhibit 3:

- Candidate should note that 40% of those familiar with Shoe Co. do not buy because of product issue
- The wrong product assortment is keeping customers away

Once candidate reaches the above conclusion, share the following information:

- Shoe Co spends significantly less in design compared to other competitors in the market.
- Industry benchmarks is 8% of sales, Shoe Co is currently at 6.5%
- Shoe Co has sales of \$800M and Gross Margin % of 40%
- Bain Retail Expert expects that "...getting the assortment right can be worth between 5-10% in sales lift for the average retailer."

Ask: what would the expected gross margin lift be with an increase in design spend?

Math

The candidate should calculate totals for FSC, FunCruiseLines, and competition, as well as new costs to FSC after alignment.

Design Spend Increase:

Increase in design spend as % of sales: $8\% - 6.5\% = 1.5\%$

Required increase in design spend: $\$800 \times 1.5\% = \$12M$

Expected Gross Margin Lift costs:

Expected sales lift: $\$800 \times 5\% = \$40M$

Gross Margin: $\$40M \times 40\% = 16M$

Expected Lift: $\$16M - \$12M = \$4M$

Case #43: Shoe Co. (7/7)

Brainstorm

Ask: what other quantitative or qualitative questions would you want to consider if you were Shoe Co?

Qualitative:

- Investing in-house versus outsourcing design – is this a capability that Shoe Co should have internally?
- Scale of investment – given Shoe Co's small size, will this investment based on % of sales be big enough to be meaningful? Is there a minimum dollar threshold above which they must invest to reap benefits?

Quantitative:

- Ramp-up costs (i.e. hiring designers, expanding facilities)
- Payback period
- NPV

Recommendation

- Candidate should deliver the recommendation that Shoe Co should increase their product design spend to better serve customer tastes and lift their gross margin by \$4M.

Risks & Next Steps

- Candidate should recognize some risks associated with the recommendation including that the recommendation might have a longer timeline that client would prefer
- Next steps should align with the risks or recommendation noted, such as a launching a consumer survey to better understand their design preferences going forward

Overall	Quant	Creativity
1	2	1

Case #44: Craft Co.

Case Type:
Profitability

EY Parthenon – Interviewer Driven

Industry:
Consumer Product Goods

Concepts Tested:

- Chart clearing
- Profitability calculation

Case #44: Craft Co. (1/5)

EYP– unknown – Interviewer Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Profitability

Consumer Product Goods

Retailer / Distributor

Fit Questions

1. Tell me about a time where you failed?
2. What is a project you worked on that you are proud of the results? Why?

Interviewer Guidance

If candidate asks:

- Craft Co's products are typically marketed towards young adults ages 18-35
- Craft Co. was seen as the first major player in this market, but new competitors began to enter by the end of 2020
- There is no specific ROI or objective that our client is aiming to achieve related to this analysis, but they are most interested in short-term strategies in the next 1-3 years as opposed to longer-term opportunities
- Craft Co. is currently focused solely on the U.S. market

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Read to candidate:

- Our client, Craft Co., is a subscription service that will send customers kits for adult crafting and DIY projects (e.g., watercolor painting, woodworking)
- Customers pay a monthly fee based on the number of kits they would like, Craft Co. sends them a box with craft supplies
- Craft Co. had grown its customer base rapidly during the COVID-19 pandemic, but has seen a dip in recent quarters as new competitors have entered the field
- Management is looking to assess the business's current performance and identify whether it can grow profitably and regain market share in the next ~3-5 years

Our client would like our help in answering two questions (i) how has Craft Co. performed recently? and (ii) what strategies can it implement to grow profitability and increase share?

Case Development

1. Framework
2. Profitability analysis
3. Brainstorm
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #44: Craft Co. (2/5)

Framework

Working hypothesis: Craft Co. is likely facing a decline in same store sales due to a misalignment with customer trends given that competitor growth indicates it is not an industry wide trend.

Framework should focus on drivers of same store sales including:

- 1) Profitability Review
 - a) Revenue
 - i) Subscriber base
 - ii) Subscription price point
 - iii) Volume of sales
 - b) Costs
 - i) Fixed Costs (store front, manufacturing facilities, etc)
 - ii) Variable Costs (materials, shipping, etc.)
- 2) Market Considerations
 - a) Current market Share
 - b) Product Suite alignment with consumer trends
- 3) Execution Strategies

Allow the candidate to walk you through their framework, noting that we do not have information on product opportunities, guiding them to the profitability exercise

Brainstorm before Math

How can Craft Co. become more profitable?

Revenue growth

- Increase revenue from existing customers
- Enter new geographic markets
- Expand into new channels (e.g., children's kits, cooking kits)

Cost control

- Analyze marketing mix and effectiveness to reduce spending without losing subscribers

Case #44: Craft Co. (3/5)

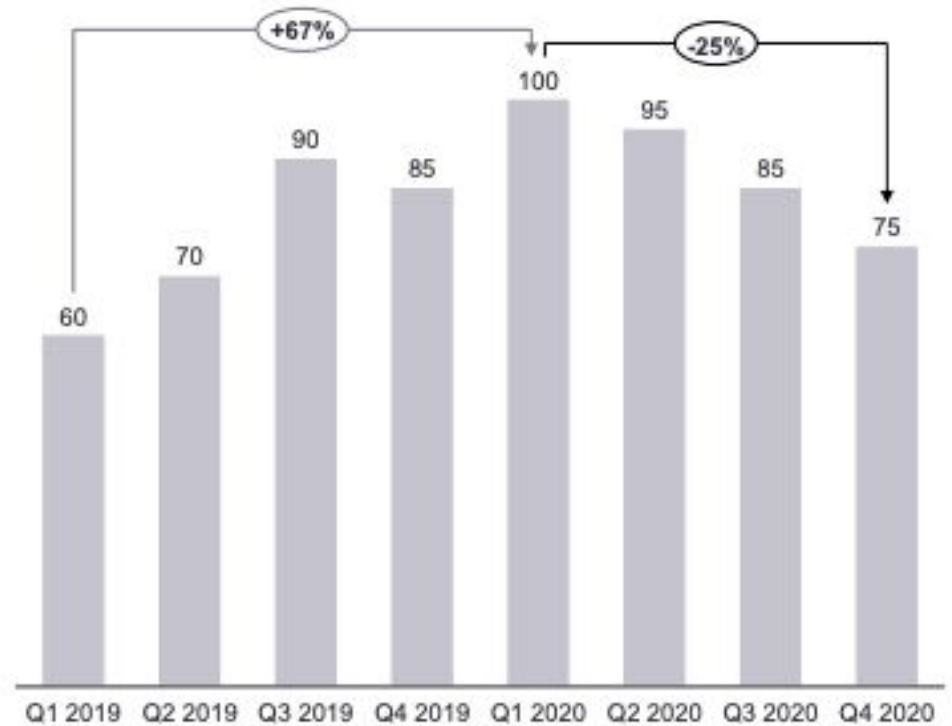
Exhibit #1: Consumer Survey Results

Cost and revenue information for Craft Co.

Revenue for Craft Co. (Q4 2020)		
	Price	Percentage of subscribers
1 kit per month	\$50	60%
2 kits per month	\$80	40%

Costs for Craft Co. (Q4 2020)		
	Cost	Percentage of subscribers
1 kits per month	\$50	60%
2 kits per month	\$60	40%
Operating costs per quarter (3 months)	\$2m	
Marketing costs per quarter (3 months)	\$8m	




Average number of monthly subscribers, in thousands,
2019 – 2020



Case #44: Craft Co. (4/5)

Exhibit #2: Consumer Survey Results

Craft Co. performance against service selection factors
Consumer survey data

Craft kit selection factors	Importance in decision	Perception of performance on key factors (1-5, 5 = best)	
		Craft Co.	Average of all others
Price		4.3	2.4
Delivery speed		2.5	3.8
Craft kit quality		3.7	3.2
Time required for craft		2.3	3.1
Variety of craft types		3.4	3.6
Variety of experience levels required		3.1	3.0



 High --- Low

Case #44: Craft Co. (5/5)

Exhibit 1

Question 1: Based on exhibit 1, how would you estimate Craft Co.'s monthly profitability in Q4 2020?

Answer should include:

- Accurate calculation of revenue, cost, and profit
- Craft Co. is operationally unprofitable, largely driven by marketing costs
- Individuals purchasing 1 kit per month are breaking even and do not need to be calculated to find profit

	1 kit	2 kits	Total
Revenue			
Customers (k)	45	30	75
Price	\$50	\$80	n/a
Months per quarter	3		
Total revenue (\$m)	\$7	\$7	\$14
Costs			
Variable costs	\$50	\$60	n/a
Months per quarter	3		
Total variable costs (\$m)	\$7	\$5	\$12
Total fixed costs (\$m)	\$2 + \$8 = \$10		\$10
Profit	(\$8)		

Question 2: Based on exhibit 1, how would you describe Craft Co.'s pattern of subscriber growth?

Answer should include:

- Subscriber levels have seen a steady decline in 2020, even though interest in crafts likely increased due to the pandemic
- Earlier growth could be due to strong investment in marketing and lack of initial competitors and/or pandemic-related demand increase across the market

Exhibit 2

Question 3: What do you notice about Craft Co.'s performance?

Answer should include:

- Craft Co. outperforms competitors on price and quality, but underperforms on delivery and convenience
- Exhibit 2 in context with profitability analysis suggests Craft Co. has likely lost customers to higher-priced competitors positioned as "premium", therefore there may be opportunity to increase price to restore profitability since Craft Co. is perceived as high-quality

Question 4: How might Craft Co. stabilize its subscriber decline?

Stabilization levers:

- Better differentiating its product relative to new entrants
- Loyalty incentives
- Acquiring one of its competitor

After this brainstorming, the case is finished. A strong candidate will wrap up the brainstorm naturally with a strong "so-what".

Overall	Quant	Creativity
3	3	2

Case #45: Telecom Co

Case Type:
Market Entry

Bain – Candidate Driven

Industry:
Telecommunications

Concepts Tested:

- Competitive Dynamics
- Market Sizing
- Breakeven Analysis

Case #45: Telecom Co. (1/8)

BAIN– unknown – Candidate Driven

Quant Level - MEDIUM

Case Type

Industry

Client Type

Market Entry

Telecom

Telco

Fit Questions

1. Tell me about a time when you had to convince someone of an opposing viewpoint
2. Tell me about a time when you overcame adversity

Interviewer Guidance

This is a market entry case that requires break even analysis. The candidate may be challenged to seek out understanding of the industry in order to clearly articulate a solution.

Fit Evaluation

S ¹ ☐ ² ☐ O ¹ ☐ ² ☐ A ¹ ☐ ² ☐ R ¹ ☐ ² ☐ Overall Fit Performance



Case Prompt

Our client, Telecom Co., provides satellite TV services (DBS) nationally. Telecom Co.'s customer base is being threatened by telcos and cable companies offering "triple play" (combo services). To combat this, Telecom Co. is considering deploying wireless network (WiMAX) to offer broadband internet.

Should the client go into the WiMAX business?

Case Development

1. Framework
2. Brainstorm
3. Profitability analysis
4. Final recommendation

Case Evaluation

Structure and Framework



Analytical and Problem Solving Ability



Communication and Positive Attitude



Synthesis and Recommendation



Case #45: Telecom Co. (2/8)

Framework

Working hypothesis: Telecom Co. should invest in WiMAX to be competitive against other providers.

Framework to help answer whether or not the investment is attractive:

- Costs
 - Capital expenditures
 - Base stations
 - Licenses
 - Additional equipment
 - Operational expenses
 - Maintenance
 - Leases
 - SG&A
 - Sales & marketing
- Revenue
 - Market share
 - How big is the market?
 - Reasonable market share?
 - Pricing
 - Market price benchmark
 - Price sensitivity
- Key challenges
 - Buy vs.build
 - Competitive moves
 - Regulations

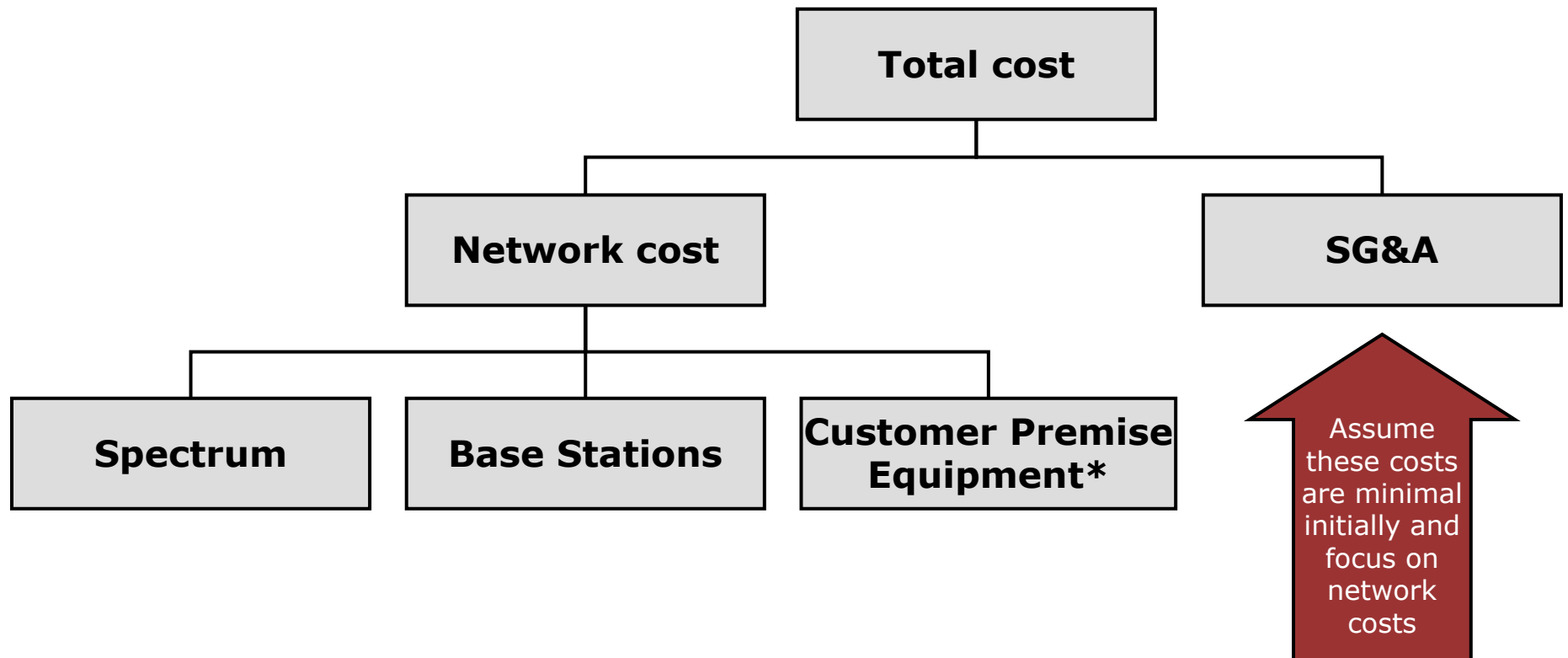
Interviewer Guidance

Candidates will take a variety of approaches to structuring an approach to this question. The primary things to look for are:

- Did the candidate state a hypothesis?
 - The candidate should express the core idea that they would like to test through their analysis. They should demonstrate how their hypothesis answers the core prompt of whether or not Telecom Co. should enter the WiMAX market
 - It's less important for the hypothesis to be backed up with evidence, since it's so early in the case (though strong candidates will draw on their own knowledge and intuitions)
- Is the framework case-specific?
 - Excellent frameworks will explore specific aspects of telco industry
- The candidate should move forward with examining the costs next

Case #45: Telecom Co. (3/8)

Exhibit #1: Total Cost Structure

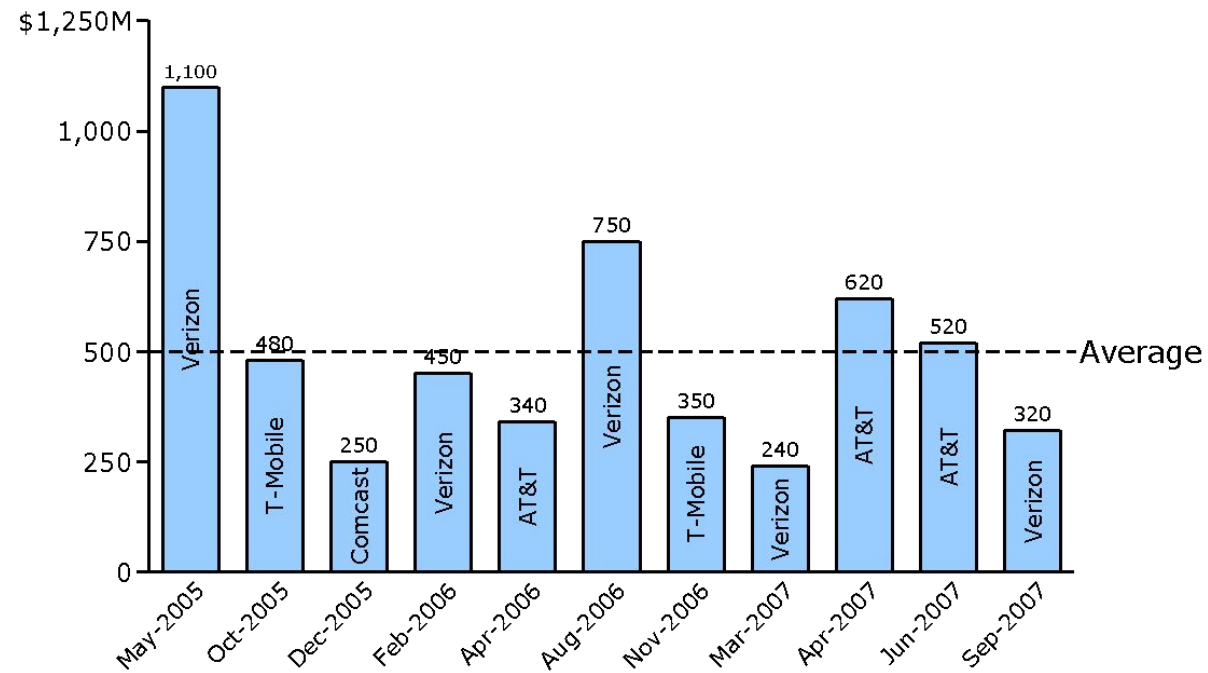


* CPE is additional equipment placed in subscribers' homes

Case #45: Telecom Co. (4/8)

Exhibit #2: Historic Spectrum auction price

Spectrum auction price

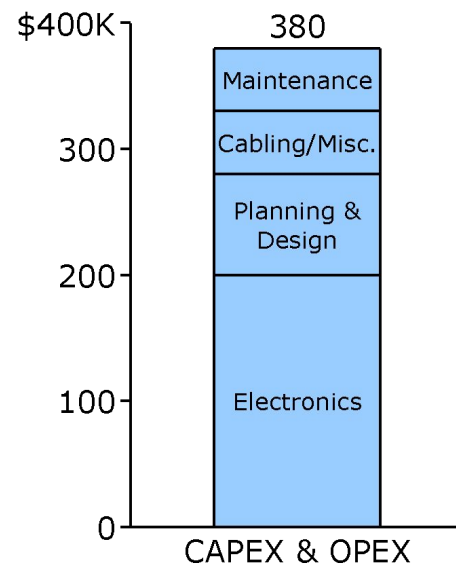


Case #45: Telecom Co. (5/8)

Exhibit #3: Own or Lease base station?

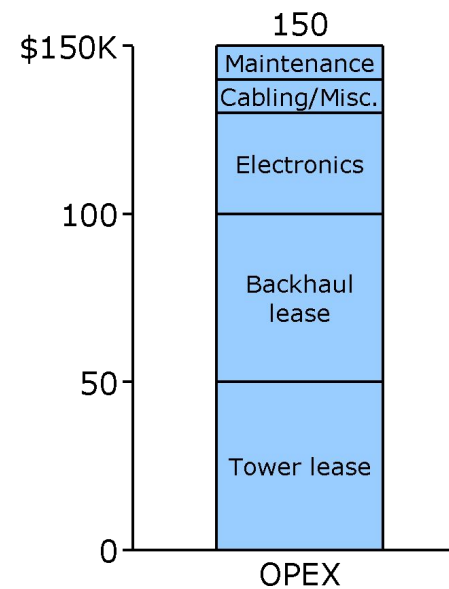
Build (Own & Operate)

Single base station



Lease

Single base station



Case #45: Telecom Co. (6/8)

Exhibits

Exhibit 1: Cost structure

Outline of costs associated with pursuing the opportunity

Exhibit 2: Spectrum Auction Price

Assume Spectrum price average is \$500M and use this in final calculation

Exhibit 3: Base Station Own or Lease?

Before diving into calculating the cost of base stations, ask the candidate to list pros and cons for building vs. leasing base stations.

Brainstorm sample answer:

Build

- Pro
 - Complete control over network footprint
 - Best tower real estate can be used for network
- Con
 - Very costly to own / operate
 - Longer time-to-market

Lease

- Pro
 - Smaller upfront investment
 - Time-to-market advantages as towers already exist
- Con
 - Availability of towers → coverage not possible if tower real estate unavailable in given location

Interviewer Guide

Exhibit 1: Cost structure

Candidate should ask for detailed breakdown / data for each.

Exhibit 2: Spectrum Auction Price

Candidate should list what they see in this historic data, but ultimately identify that they can use the average in their total cost calculation

Exhibit 3: Base Station Own or Lease?

Candidate should realize that it is cheaper to rent and should suggest to rent, assuming \$150K per station. This should be used in final cost calculation.

Brainstorm should be organized and show structure.

Case #45: Telecom Co. (7/8)

Math: Info

Base Station

A good candidate should know:

- U.S. population
- Persons per household (2.5)

When asked, give the candidate the information below:

- Market share (estimated by management) is 5%
- Base station bandwidth is 80,000 kbps
- Bandwidth required per household is 320 kbps
- % of concurrent connections is 50%
 - *Telco companies balance the cost per subscriber and required bandwidth per subscriber by estimating % of users online at the same time*
- Cost per base station is \$150K (to lease)

Customer Premise Equipment

- CPE cost is \$150 per household
- Client estimates that 2/3 could be passed through to the customer

Revenue from offering

- Broadband internet service price is \$20 per month

Math: Calculations

Base Station Cost

Estimating number of households

$$300\text{M} / 2.5 = 120\text{M households}$$

Marketshare

$$120\text{M} \times 5\% = 6\text{M households}$$

Households per base station

$$(80,000 \text{ kbps} / 320 \text{ kbps}) \times 2 = 500 \text{ households per base station}$$

****multiplied by 2 to account for concurrent connections (50%)*

Number of base stations needed to service 6M households

$$6\text{M} / 500 = 12,000 \text{ households}$$

Base station cost

$$12,000 \times 150,000 = \$1.8\text{B}$$

CPE Cost

Total cost

$$\$150 \times 6\text{M} = \$900\text{M}$$

Pass on 2/3 to customer

$$\$900\text{M} \times 1/3 = \$300\text{M}$$

TOTAL COSTS

$$\text{Spectrum} = \$500\text{M} \quad \text{Base Station} = \$1.8\text{B} \quad \text{CPE} = \$300\text{M}$$

$$\$500\text{M} + \$1.8\text{B} + \$300\text{M} = \mathbf{\$2.6B}$$

REVENUE

$$6\text{M subscribers} \times \$20/\text{month} \times 12 \text{ months} = \mathbf{\$1.4B / year}$$

Case #45: Telecom Co. (8/8)

Recommendation

Telecom Co. should not invest in WiMAX due to high up-front costs and lower revenue lift.

Telecom Co. should focus on defending existing core services such as satellite TV.

Risks / Next Steps

1. Lose market share to competitors
 - Identify other areas of value to retain customers. This could be done by tech innovations or partnerships.
2. Lose out on high growth opportunity
 - Research customer trends to quantify the potential in WiMAX market

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