



# Darden Consulting Club

## Case Book

2017-2018 Edition

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# The Consulting Case Interview

# Structure of the Case Interview

The case interview typically lasts between 20-40 minutes and consists of:

- Case overview/ prompt
- Clarifying questions
- Structure/ framework building & explanation
- Problem solving & analysis
- Recommendation

More information on each of these sections follows.

In general, the bulk of your time should be spent on problem solving & analysis, with 2-3 minutes to build your framework and a <2 minute recommendation at the end.

The interview should be highly conversational and interactive. Depending on the firm, round, and seniority of your interviewer, some interviews will be more structured than others. Please see the subsequent section for more firm-specific information.

# Structure of the Case Interview

## Case Overview/ Prompt

- The case interview will start with the interviewer providing the overview of the client and the problem. Take diligent notes, as the overview contains crucial information you will need later in the case.
- Following the prompt, you should give the interviewer your initial synthesis of the case. Confirm the objective and the key facts. Don't simply repeat back word-for-word what the interviewer said – this is the first chance to prove that you can synthesize information quickly
- Occasionally, the interviewer will not frame a specific question – one way to handle this is to test the client's goals with clarifying questions and propose an approach before structuring the problem

## Clarifying Questions

- After the initial synthesis, you have the opportunity to ask some clarifying questions. This can be used to clarify a specific term used in the case prompt, to identify a concrete benchmark or goal for the problem(e.g. in a profitability case, can ask whether there are targets or time frames that the client has in mind) or to understand more about the client, their customer base, their competition, and their industry generally. Do not ask specific questions about the client at this stage, and do not ask more than 3-5 clarifying questions.

# Structure of the Case Interview

## Structure/ Framework Building & Explanation

- Following the prompt and clarifying questions, you should ask for some time to sketch out your framework
- Generally it is a good idea to write the objective at the top of your framework, and then structure it like an issue “tree”, with 2-4 buckets and a few supporting points underneath each
- Do not take more than 2 minutes to draw out your framework; then present to your interviewer
- It can be useful to read books like *Case in Point* that provide a bank of suggested frameworks, but **it is not recommended to try to memorize frameworks** as you run the risk of overlooking what is unique about each case situation and appearing robotic and overprepared

## Problem Solving & Analysis

- After talking through the framework with your interviewer, propose the area of analysis that you'd like to start with. Do not wait for the interviewer to prompt you with “Where would you like to start?”.
- At this point your interviewer may suggest a different path or present you more information, especially data. If the interviewer does neither of those things, you should continue down the path you proposed and start identifying potential issues and areas of analysis, and then ask if the interviewer has any related data
- In general, the analysis will start off with some calculations or chart-reading, and then will move into a more qualitative/strategic direction where you're asked to come up with some ideas. Keep in mind that this whole interview should be conversational in nature and listen carefully for hints.

# Structure of the Case Interview

## Recommendation

- Once you have worked through analysis and uncovered the main issues of the case, your interviewer will ask for a recommendation.
- You can ask for a minute to gather your thoughts, but some interviewers will say no. It is a good idea to make a habit of noting risks and next steps as you work through the case so that this step is quicker
- Your answer should:
  - Clearly state the recommendation
  - Support with a few key pieces of evidence (don't rehash analysis – get to the answer)
  - Identify risks
  - Suggest next steps
- Presentation of this should be no longer than 1 min (and sometimes the interviewer will ask for a shorter answer)
- If your interviewer gives you a minute to prepare, you can write out a recommendation slide and present it, similar to the framework at the beginning of the case. This is not necessary or possible in many case situations

# Frameworks

## Structure/ Framework Building & Explanation

- The most important thing to remember about frameworks is that there is no one-size-fits-all framework.
- That being said, the profit framework applies to a large number of cases; a framework for evaluating an investment decision is also useful.
- For a good overview of how various parts of a framework fits together in one monster diagram, refer to *How To Get Into the Top Consulting Firms* by Tim Darling book. There are good overviews of the most common frameworks in *Case In Point* and in the shared Consulting Club folder, but **do not memorize them**. Instead, you should be able to use your intuitive business judgment to determine the most relevant issues to examine.
- When constructing your framework, **remember to be MECE**, a McKinsey-coined term that stands for Mutually Exclusive and Collectively Exhaustive – meaning that your framework should cover all the key issues, without repeating issues across buckets.

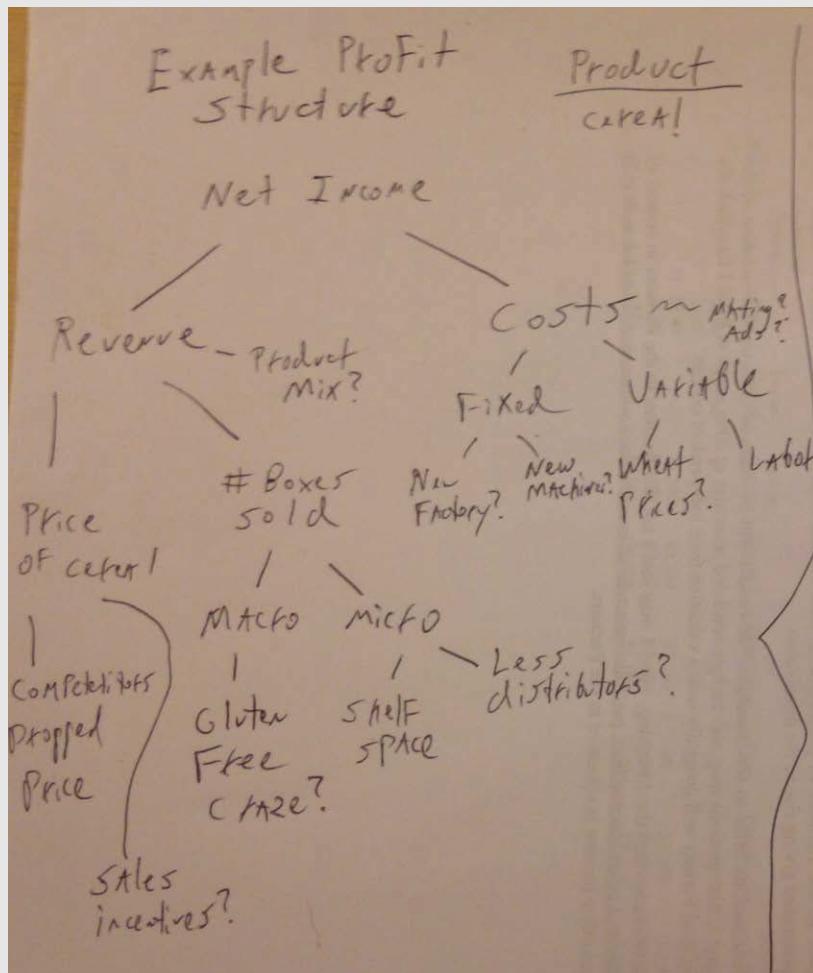
# Frameworks

## Additional advice

- Rehashing a generic framework like the BCG growth matrix or Porter's Five Forces in a consulting interview basically means interview suicide. Come up with your own framework (may be informed by Five Forces, etc) and make sure to customize the terms for the case: e.g. for a cable company, price is "subscription fee"; for a non-profit, price is "average donation amount".
- Practice structuring the problem by doing "practice starts", where you read the client problem and sketch out a framework. The advantage to this is that you can do it without a case partner.
- Talking through your framework
  - Once you have structured your framework, you will need to walk your interviewer through your thinking. The verbal communication of your framework is just as important as the structure.
  - Make sure you go through in a systematic, logical way, while being concise. Inserting a hypothesis when explaining your framework (eg. "It is my hunch that the profit decline is a result of a potential decline in the demand for razor blades due to a new trend of consumer dislike for shaving") will get you an extra gold star.
  - It is best to explain the framework at a high level by briefly introducing each bucket before drilling down into the issues listed within each bucket.

# Frameworks

## Example



## Things to Note

- The framework is customized for the product/market. This is an opportunity to show that you were listening and differentiate yourself from interviewees who will simply write generic trees ("revenue is composed of price, volume, and product mix" with little attention paid to the company and products given to them by the interviewer)
- Get creative. Note the use of known issues outside the case "Gluten Craze" combined with the details of the case.
- Dig past the 2<sup>nd</sup> and 3<sup>rd</sup> levels whenever possible
- There isn't a "correct" answer, just be creative, structured (MECE), and insightful

# Math

## The Math!

- For some people, doing calculations is the easiest part of the case. For others, it is the most miserable. The key is to be comfortable doing math on pen and paper with someone else watching you, which doesn't always come naturally. That's why it's critical to practice your "public math" through practicing cases with others.
- But keep in mind that 99% of the time, the math will be simple arithmetic, and keeping a cool head will prevent you from making mistakes. Additionally, your interviewer will frequently allow you to round to make the math easier (e.g. 50 week instead of 52)

## Sanity checking

- Once you come up with a number, "sanity-check" your answer – that is, make sure it makes sense in the context of the case. If you've sized the US cell phone market to be 10x the US population, you should verbalize to your interviewer that that doesn't seem to make sense and then work back through your calculation.

## Mistakes are OK

- You can recover from a math error – as long as you don't let it fluster you. Many of us made math errors in our final rounds of interviews and still received job offers.
- That said, it is best not to make the same mistake more than once, so if you're having trouble with the same issues (e.g. dropping zeros) in practice cases, focus on eliminating those errors.

# Math

## Talking through the process

- The toughest part about “public math” is learning not to fall completely silent while you’re doing multiplication. You can’t leave your interviewer hanging while you dive into calculations for several minutes, so it’s very important to come up for air and explain what you’re doing.

## Use shortcuts

- Remember to use shortcuts – round when you need to, or manage your zeros with scientific notation if that works for you.

## So what?

- The point of the case interview is not to showcase your mental acrobatics, but to actually do something with the numbers once you’ve calculated them. One of the most important qualities that interviewers look for is the ability to tie the number back to the point of the question (the answer isn’t “\$8B”, the answer is, “the potential market size is \$8B, which looks pretty attractive ... and so on”). It’s important to not only get the number but to understand how it fits into the overall problem and what it means you should do next.

## Practice!

- No one is a natural at all of these steps! It’s important to practice until you’re comfortable doing this in front of an interviewer.

# Math

## Example

### Things to Note

- The more you can structure information like an Excel spreadsheet, the better off you will be because:
  - You can better recover information
  - Your interviewer can follow what you are doing
  - It makes your look structured and organized
- Take the time to write prompts such as "How much money will be saved" and "10% labor reduction on per unit basis"
- Circle important numbers (\$5M in savings) that might be relevant to the recommendation or any additional prompt
- Go to the next level after the number is calculated
  - "I see the total savings is 5M, which represents about 6% of our total costs. This seems like a great reduction, but we would next want to know how this labor reduction is being generated and if there are any negative unanticipated consequences such as the threat of unionization, loss of great workers due to high stress, and/or high capital costs associated with getting to this higher level of labor efficiency

How much money will we save?				
Current Cost	Material / Unit	Labor / Unit	Volume	Total Cost
Product 1	15	10	1M	25M
Product 2	5	20	2M	50M
				75M

10% Labor Reduction on per unit basis

Current Cost	Material / Unit	Labor / Unit	Volume	Total Cost
Product 1	15	9	1M	24M
Product 2	5	18	2M	46M
				70M

Savings = 5M  
75M - 70M

# Company Overviews and Interview Processes

## Firm Overview

"Whether it's business strategy, technology strategy or operations strategy, we shape value, new businesses and operating models for the future. That's high performance, delivered."

## What they look for

- Accenture traditionally recruits on-grounds for its Strategy and Operations, Federal and IT Strategy practices.
- Accenture looks for well-rounded candidates who demonstrate a passion for creating client value through practical, implementable solutions.

### Career Hierarchy

Managing Director

Senior Manager

Manager

Consultant (post-MBA)

Analyst

## Interview process

- First and second rounds are both on-Grounds, with little time between each round (may be next day)
- Second round interviews are likely to be conducted by at least one Managing Director
- Accenture's interviews are less quantitative
- Interviews exhibit a “conversational style,” where the focus of the case interview is how the candidate communicates his approach and thinking.

# A.T. Kearney or ATK

\Car-Knee\



## Firm Overview

“A.T. Kearney is a global team of innovative, insightful and collaborative experts who deliver creative, meaningful and, above all, sustainable results. Consultants that generates powerful strategic insights to address practical, real-world needs”

## What they look for

- ATK recruits on-grounds at Darden for its NA offices.
- Given ATK's national staffing model it makes little difference which office an applicant applies.
- ATK looks for candidates who are willing to work in its collaborative engagement model.
- ATK does not have a specific type of candidate that they look for and they actually take pride in the fact that their consultants are a diverse group with a wide range of personalities
- It is important to note that ATK does not recruit 2<sup>nd</sup> year MBA students and their entire class comes strictly out of the intern pool

Career Hierarchy
Director/ Partner
Principal
Manager
Associate (Post-MBA)
Analyst

## Interview process

- First round is on-grounds with Principal or Manager
  - Has two interviews in 1<sup>st</sup> round – 1 behavioral and 1 case (30min each)
  - First round case tests quant skills and ability to structure (can have a lot of math or almost no math; usually have cases built around operations strategy or sourcing and are not similar to the familiar profitability, market sizing or M&A cases)
- Second/Final round is at ATK office (need not be the one you are recruiting for)
- Second round has three components
  1. Written case with presentation to panel of Managers and Principals
    - A slide deck of about 15 slides is handed over to the candidate, will have lots of qualitative and quantitative information
    - Candidate has about 30mins to go through the information, build a slide deck with insights and recommendations on a flip chart and present it to the panel when they walk in
    - The case by itself is not complicated; the catch is to understand the data, pick the relevant insights and build a simple, coherent story on it
    - You will not have a computer but might have to do some math (ex. NPV) using a calculator (your phone's calculator is allowed)
  2. 2 Behavioral fit interview with Partners, similar to 1<sup>st</sup> round



## Firm Overview

“Bain & Company is the management consulting firm the world's business leaders come to when they want enduring results. Together, we find value across boundaries, develop insights to act on, and energize teams to sustain success. We're passionate about always doing the right thing for our clients, our people and our communities, even if it isn't easy.”

## What they look for

- Generalist practice – no specializations
- Strong emphasis on cultural fit due to local-staffing model
- Want to see a balance of quantitative ability and qualitative strengths
- “Answer first” structure to responses
- Focus on driving results for the client (originated “fees at risk” model)

Career Hierarchy
Partner
Principal
Manager
Consultant (Post-MBA) 7 Case Team Leader
Associate Consultant



## Interview process

- First round is at Darden (two cases, with behavioral questions at the start)
- Second round is in the office you are interviewing for; either:
  - 1 typical case, 1 written case, 1 behavioral interview
  - 2 typical cases, 1 written case

# The Boston Consulting Group



## Firm Overview

“Our customized approach combines deep insight into the dynamics of companies and markets with close collaboration at all levels of the client organization. This ensures that our clients achieve sustainable competitive advantage, build more capable organizations, and secure lasting results.”

## What they look for

- BCG looks for intellectually curious candidates that are looking to grow with the firm and are open to new challenges.
- Fit with the firm's culture is important, so it is good to start developing relationships with BCGers early on in the process. There is no set professional background or profile that BCG is looking for in prospective Consultants.
- BCG wants to know why you are passionate about a certain location. Be prepared to network with BCGers at your office preference and explain why you want to work there

[http://careers.bcg.com/path/who\\_we\\_seek.aspx](http://careers.bcg.com/path/who_we_seek.aspx)

Career Hierarchy
Partner
Principal
Project Leader
Consultant (Post-MBA)
Associate

# The Boston Consulting Group



## Interview process

- Round 1: On Grounds
  - Two consecutive interviews will both contain a behavioral part and a case with roughly equal weight
  - Cases typically start with an open ended “brainstorming” phase followed by a quantitative phase.
  - Expectation is that the interviewee will “drive” the case with input from interviewer
  - Story of “why consulting, why BCG” are important, as is nailing the quant section. Less importance on office-specifics
- Round 2: In office (note that some offices do not have the 3<sup>rd</sup> written interview)
  - Three one-hour interviews typically with partners, maybe principals
  - Lots of probing into “office-specific” questions. Why this office in particular?
  - All interviews will have a behavioral and case component
  - Two interviews will have same structure of first round (similar length quant case)
    - Typically will be more “conversational”, and less structured than first round
    - Some partners will use cases from their own experience
  - Third interview consists of a written case and Q&A/ fit questions at the end
    - ~30 minutes to read 15-20 page slide deck and prepare recommendation
    - Present your recommendation using 3-4 selected slides
    - Interviewer will challenge your recommendation and you will jointly analyze the case

## Firm Overview

"As the world's largest management consulting firm, we help organizations build value by uncovering insights that create new futures and doing the hard work to improve performance."

## What they look for

- Deloitte recruits on-grounds at Darden its Commercial Strategy & Operations practice, although Federal, Technology and Human Capital are also a part of the consulting division.
- They look for well-rounded candidates who understand their mantra of "executable strategy" –
- Deloitte prides itself on not only doing the strategy assessment, but staying on for the implementation and execution of the strategy as well.

Career Hierarchy
Director/ Principal
Senior Manager
Manager
Senior Consultant (post-MBA)
Consultant
Business Analyst

## Interview process

- First and second round are back-to-back at Darden
- First Round
  - A behavioral interview
  - 30 minute case designed to heavily test quantitative ability
  - Deloitte interviews often feature a “data sheet” that presents all the information in advance, but it is still important to follow the standard case format
- Second Round
  - A behavioral interview
  - An individual case interview
  - A ~5 person group case in which you will play a specific functional role

## Firm Overview

“McKinsey & Company is a global management consulting firm. We are the trusted advisor to the world's leading businesses, governments, and institutions.”

## What they look for

- McKinsey looks for five aspects in its candidates. All areas are tested in the interview process; the case interview will test problem solving and the other skills will be tested through the experience interview. They are **Personal Impact, Entrepreneurial Drive, Problem-Solving Skills, Achievement and Leadership Abilities**
- McKinsey recruits MBAs into 3 different practices: Strategy, Operations, and BTO (Business Technology Office)

Career Hierarchy
Partner
Associate Principal
Engagement Manager
Associate (Post-MBA)
Business Analyst

## Interview process

- First round (on-grounds)
  - 2 interviews, each with 1 case and 1 experience question
  - First rounds normally conducted by Ems
  - McKinsey's interviews are less driven by the interviewee and more driven by the interviewer than other companies. Be prepared to structure your thoughts during each new prompt/phase of the interview, but keep in mind that each prompt from the interviewer is still part of the larger issue/ client need which is usually presented up front
  - Recommendations need to take into account takeaways from each prompt/phase of the interview
- Second round (in-office)
  - Generally 3-4 interviews, each with 1 case and 1 experience question
  - Second rounds are normally conducted by APs/ Partners

# The Parthenon Group



PARTHENON

## Firm Overview

- The Parthenon Group is a strategy consulting firm with expertise in private equity and education. Additional practices include healthcare, industrials, and consumer and retail. Parthenon operates a “two-case model” and typically emphasizes light-travel. Parthenon was acquired by EY in September of 2014, but is maintaining a separate brand and operations.

## What they look for

- Parthenon recruits at Darden for its Consultant and Summer Consultant roles.
- Parthenon describes its consultants with the phrase “Smart. Nice. Driven.”

Career Hierarchy
Managing Director
Vice President
Sr. Consultant
Consultant (Post-MBA)
Senior Associate
Associate

## Interview process

- Format is the same for summer and full-time roles
- First Round: 2 interviews
  - Each interview will begin with a behavioral question
  - The first case interview will be a typical case
  - The second case interview will be a market sizing exercise (ex: “How many doughnuts are sold in the US each year”)
- Second Round:
  - 15 minute chat with a Managing Director
  - 1 hour case (30 minutes solo preparation, 30 minutes talking through the case with a vice president or managing director)

## Firm Overview

“From expansion into emerging markets, to new technologies such as cloud computing, companies are trying to sort through how to exploit new opportunities for growth. We have deep industry experience and deliver customer solutions to help our clients address their most complex business issues. Our professionals bring a diverse background of skills and education allowing us to provide clients with a unique and holistic perspective on their issues.”

## What they look for

- Fit, and the typical consulting analytical toolkit, as well as relevant background experience. PwC is functionally-based
- The major functions of PwC Advisory include: Strategy Consulting, Management Consulting, Risk Consulting, Consumer and Industrial Products (CIPS), Financial Services, Technology, Information, Communications and Entertainment (TICE) and Technology Consulting within Health Industries.
- PwC Advisory has offices in most of the major cities in the US. The firm is quite flexible in location. Relocation among offices within the US is common.

<http://www.pwc.com/gx/en/careers/index.jhtml>

Career Hierarchy
Partner
Director
Manager
Senior Associate (post-MBA)
Experienced Associate
Associate

## Interview process

- Round 1 (on-Grounds): Case plus behavioral interview
  - The interviewers are not necessarily from the office the candidates applied for
  - But candidates are interviewed by the function applied to
- Round 2 (virtual): Two behavioral components (no case)

## Firm Overview

- A mid-sized management consulting firm focused on sales and marketing, primarily in healthcare
- The firm has growth initiatives in place for “PI” aka priority industries (Financial services, travel and transportation, energy, media, industrials)
- ZS is unique in their academic, non-hierarchical environment, casual, office-based culture, and the level of responsibility given to MBA hires. As a consultant at ZS, you are often given the responsibility of managing the project team and the project’s day-to-day operations.

## What they look for

- ZS recruits at Darden for its Consultant position.
- The firm values candidates with strong quantitative abilities and sales and marketing knowledge.
- A thorough understanding of the pharmaceutical and medical devices industries is valued, but not required. This is especially the case if recruiting for the PI or Tech practices.
- The firm looks for candidates who are team players, and have demonstrated the ability to work well in / manage teams.

Career Hierarchy
Principal
Associate Principal
Manager
Consultant (post-MBA)
Associate Consultant
Analyst

## Interview process

- First round interview held on-grounds at Darden
- These interviews are mostly behavioral, with one case
- Second round will probably be held on-grounds
- Second round will include back to back interviews, including a presentation to principals
- Quantitative skills (theoretical and actual), ability to synthesize large amounts of information, and presentation skills are rigorously tested

# Practice Cases

# Case Index

Case Name	Firm	Quant level	Qual level	Page #
Smoothie the Way	BCG	3	1	35
The Ball is in Your Food Court	BCG	2	2	43
Symphony Orchestra	McKinsey	2	3	51
Lizard Insurance	Bain	1	2	59
Nuclear Waste	BCG	2	1	67
SB Choppers	Strategy&	1	2	77
Hot and Cold Calls	McKinsey Ops	2	2	85
Seven Flags	Bain	3	1	94
Mighty Meats	McKinsey	2	2	103
Vitamin Universe	McKinsey	1	2	112

# CASE 1:

## Smoothie the Way

Firm Style	Interview Round
BCG	2

### Case Question

Your friend, Dan, came to you with a business question. A successful serial entrepreneur, Jim, approached him about an investment opportunity into a smoothie business. Jim recently came back from Hawaii with a recipe that he believes can prove very profitable. Jim wants \$30K to start a proof-of-concept store and will give Dan 50% ownership of the business. How would you advise Dan?

### Clarifying information (*provide only if corresponding questions are asked*)

Smoothie is a thick, smooth drink of fresh fruit pureed with milk, yogurt, or ice cream. After the proof-of-concept phase, Jim intends to open new stores and/or create a franchise.

Dan's main goal is to make money. He wants return on investment within 2 years. He has not decided if he wanted to sell the business or keep it after 2 years.

We don't know what the twist is, because it's a secret recipe.

# Smoothie the Way

- Framework
  - Profits (cash flows)
    - A strong candidate will have asked the “how will Jim and Dan make money” question, or suggested the franchise idea
    - A strong candidate will then point out that a franchise can be potentially very lucrative if the concept store proves to be profitable
    - Revenue
      - Number of customers
      - Price per smoothie
      - Price per franchise license
    - Costs
      - Fixed costs: real estate (leases), equipment (juicers), insurance
      - Variable costs: fruit, labor

# Smoothie the Way

- Framework (cont.)
  - Customers
    - Consider segments of customers
    - Seasonality of the product can be a concern
  - Competitors
    - Similar products: froyos
  - Opportunity costs
    - Could Dan have done this himself without Jim?
  - Exit strategies
    - Does he intend to sell the business or keep with it and reap profits?

# Smoothie the Way

- Breakeven calculation

- The candidate may choose to start with the profitability of the concept store. If they don't, prompt them.
- Provide the following cost information, but only when they ask for specific line item
  - Price per smoothie is \$4
  - The lease is \$6,000/month
  - The equipment cost is \$20,000 up front with a lifetime of 20 years
  - Insurance is \$10,000/year
  - Fruit costs per smoothie: \$1/smoothie
  - Labor costs: 2 employees, \$6/hour, opening time 11am-10pm
  - Assume store opens 360 days in a year

# Smoothie the Way

- Guidance
  - The candidate should naturally think about a breakeven point. If they ask or aren't sure, prompt them to do so.
  - Breakeven analysis
    - Total cost on a daily basis:  $\$200 + \$28 + \$132 = \$360$ 
      - Lease:  $\$6,000/30 = \$200$
      - Insurance:  $\$10,000/360 = \$27.78$  (round up to \$28)
      - A strong candidate would leave juicers for the end since it's the upfront investment
      - Labor (a strong candidate will recognize this is actually a fixed cost):  
 $\$6 * 11 * 2 = \$132$
    - Contribution margin:  $\$4 - \$1 = \$3/\text{smoothie}$
    - Breakeven point:  $\$360/\$3 = 120 \text{ smoothies/day or about } 11 \text{ smoothies/hour}$

# Smoothie the Way

- Return on investment calculation

- The candidate should start thinking about calculating total profit. Provide the following information if asked specifically:
  - Dan's expectations of the smoothie sales: 15 smoothies/hour
- Will Dan make this money back in 2 years?
  - Number of smoothies beyond breakeven:  $15 * 11 - 120 = 45$  smoothies/day
  - Profit per year:  $\$3 * 45 * 360 = \$48,600$
  - Profit after two years, after equipment:  $\$48,600 * 2 - \$20,000 = \$77,200$
  - Dan's profit:  $\$77,200 / 2 = \$38,600$
  - After initial investment:  $\$38,600 - \$30,000 = \$8,600$

# Smoothie the Way

- What are some of the non-financial considerations in this decision?
  - Key is to be structured
  - Sample answer
    - Internal:
      - Operational capability
      - Expanding product mix/hours open
    - External:
      - Location/seasonality
      - Competition
      - Opportunities for partnerships

# Smoothie the Way

- Recommendation

- Dan is just pulling up with some beers and would like to hear your thoughts. What do you tell him?
- A strong recommendation will include
  - Bottom line – Go ahead and invest in the project
  - Supporting reasons: generates profit for Dan within 2 years
  - Risks: sales projections, competitive responses, customer trends, seasonality
  - Next steps: get accurate forecast of sales, research competitors, research locations for the concept store

# CASE 2:

## The Ball is in Your Food Court

Firm Style	Interview Round
BCG	2

### Case Question

Your client operates restaurants in airports and motorways. They have recently seen lower margins and flat sales. They have contact BCG to figure out the reasons and identify potential solutions.

### Clarifying information (*provide only if corresponding questions are asked*)

The chain is large, employing over 3000 employees in many airports and motorways. They bid for space at the airport then franchise certain brands like Starbucks, McDonald's, etc. A food court is a reasonable representation of their retail space. In the past, sales have grown at least inflation level if not higher. There are no clear trends between different locations. They don't have particular goals, but do want to improve profitability.

# The Ball is in Your Food Court

- Framework

- Revenue: # of customers, \$ spent per customer, menu item mix
- Costs: FC (bidding cost, franchise cost, headquarter, OH); VC (ingredients, labor)
- Customers & Competitors (business vs. family travels, premium vs. budget, other competitors and substitutes)

# The Ball is in Your Food Court

- Guidance

- The candidate should intuit that the flat sales is of concern, since that's a direct cause for margin shrinkage.
- If the candidate asks about costs, mention that labor is the biggest cost items,  $\frac{3}{4}$  of our workers are unionized.
- Direct candidate to think about revenue. The number of transactions have been flat as well as the average spend
- If they asked for any recent phenomenon or if they wonder about capacity, tell them the quick serve areas have seen long lines. The hypothesis here should be that we are understaffed and there might be more demand than we are able to serve.
- Provide Exhibit 1 when candidate asks about staffing and capacity.

# The Ball is in Your Food Court

- Question 1: What's the cost to over/under staffing?
  - Data to provide ONLY if asked
    - Revenue loss per understaffed employee: \$200
    - Additional cost per unnecessary employee: \$40
    - Profit margin: 20%
  - Calculations:
    - Revenue loss: 11 *employees* \* \$200 = \$2,200
    - Cost burden: 15 *employees* \* \$40 = \$600
    - Total profit loss: \$2,200 \* 20% + \$600 = \$1,040

Hour	Transactions	Current staff	Staff needed	Understaffed	Unnecessary
5am	0	4	2		2
6am	19	4	2		2
7am	22	4	2		2
8am	39	4	4		0
9am	48	4	5	1	
10am	56	5	6	1	
11am	59	5	6	1	
12pm	78	5	8	3	
1pm	103	6	8	2	
2pm	92	6	8	2	
3pm	66	6	7	1	
4pm	47	6	5		1
5pm	52	6	5		1
6pm	31	5	3		2
7pm	28	5	3		2
8pm	0	5	2		3

# The Ball is in Your Food Court

- Guidance

- A store a store cannot have more than the 8 employees and must have at least 2 employees at all time
- Daily loss is over \$1,000 for one store, the annual loss for the whole company can be very large (back of the envelop: 3000 employees, 10 employees per store means about 300 stores, \$365K per store annually = \$109.5M in profit)
- This exhibit is specifically testing for a candidate's ability to sift through a lot of information. For example, the transactions are important, but not items or \$/order

# The Ball is in Your Food Court

- Question 2: What are some ways the client can improve store profitability?
  - Candidate should use a structured approach to brainstorm ways to fix capacity problem. Example:
    - Increase efficiency of existing staff
      - Cross-training
      - Re-staffing, flexible shifts (mention union as potential problem)
      - Training to increase efficiency
    - Increase capacity to handle peak demand
      - Automation, technology innovation
      - Add fast-service window to handle increased rush hour demand
      - Introduce grab-and-go items that can be pre-made during idle time
  - In the long run, might need bigger stores to fit more employees if demand keeps increasing. This will need further profitability analysis.

# The Ball is in Your Food Court

## Exhibit 1

### Other data

#### Current staffing schedule

	5am	6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm
Employee 1																
Employee 2																
Employee 3																
Employee 4																
Employee 5																
Employee 6																
Employee 7																
Employee 8																
Employee 9																
Employee 10																

#### Store characteristics

Minimum employees	2
Maximum employees	8
Employee per order	0.1

Hour	Transactions	Items	Avg. \$/order
5am	0	0	\$0.00
6am	19	40.66	\$7.94
7am	22	51.48	\$8.26
8am	39	106.86	\$8.11
9am	48	128.16	\$8.00
10am	56	131.6	\$7.76
11am	59	102.07	\$8.81
12pm	78	87.36	\$7.13
1pm	103	153.47	\$7.18
2pm	92	189.52	\$7.81
3pm	66	196.68	\$7.08
4pm	47	51.7	\$8.24
5pm	52	55.64	\$7.15
6pm	31	55.18	\$7.67
7pm	28	35.84	\$8.69
8pm	0	0	\$0.00

# The Ball is in Your Food Court

- Recommendation: a strong recommendation would include the following components:
  - Identify main driver of declining profitability
  - Recommendation
  - Risks
  - Next Steps

# CASE 3: Symphony Orchestra

Firm Style	Interview Round
McKinsey	1

## Case Question

Metropolitan Symphony Orchestra, a critically acclaimed top 20 orchestra, has been having financial problems lately. Revenues went down in the past three years, causing budget deficits, and forcing MSO to borrow to finance its operations.

New CEO has asked McKinsey to help increase revenues, otherwise MSO will have to cut size, or cease operations completely.

## Clarifying information (*provide only if corresponding questions are asked*)

What are sources of revenues?

1. earned income (ticket sales: single ticket or annual subscription fee)
2. annual donations from gov't bodies, charitable foundations and individuals
3. Endowments: earn fixed small percentages of returns each year

# Symphony Orchestra

- Question 1: What areas do you want to investigate to help increase revenues?
- Possible structure:
  - Revenue streams: earned income, donations, endowments)
    - Drivers of earned income: Price; Volume (can further break down into increase # tickets purchased by existing customer base and expand into new customer segments)
    - Drivers of donations: increase # donors, increase \$/donor
    - Drivers of endowment: increase fixed interest rate, increase amount of endowment
  - Macro factors: industry trend, competition (within city), other high class entertainment options

# Symphony Orchestra

- Question 2: Earned income went down. Can you hypothesis some opportunities to increase earned income?
  - Pricing: Add price tiers to “Single ticket price, discounted subscription fee”; Bonus if candidates notes this is not a commodity, and should be priced based on value to audience
  - Volume: levers include #of concerts, # themes (creative), # star performers/conductor, # tickets sales channels, free concerts to students who will later become customers, flexible scheduling
  - Push candidate to be creative in ways to increase income

# Symphony Orchestra

- Question 3: Reading Exhibit A, what are your key observations?
  - Observations include: decline in full subscription renewable rate, increase in single ticket sales. (note that increase in single ticket sales does not make up for decline in full subscription sales)
  - Follow up question: Why do you think Full Subscription rate went down? Answers could include:
    - Scheduling/concerts planning
    - Price (how people perceive the value)
    - Competition

# Symphony Orchestra

## Exhibit 1

	3 years ago	2 years ago	Last year
Single ticket sales (\$M)	1.8	2.1	2.3
Half season subscription sales (\$M)	2.8	2.7	2.6
Full season subscription sales (\$M)	3.3	2.7	2.1
Others (\$M)	0.4	0.3	0.3

	3 years ago	2 years ago	Last year
% of previous year's subscribers who renewed (e.g., purchased another subscription—either full or half season)	62%	50%	45%

# Symphony Orchestra

- Question 4: MSO realized that they need to increase number of subscribers and retain them over time in order to increase revenue. The renewal rate, however, has been decreasing. What is the lifetime value of a brand new customer?
  - Given: average discounted revenue per subscriber Year 1 is \$300, Year 2: \$400, Year 3 and above is \$2900
  - Give if asked: renewal rate after year 1 is 40%, after year 2 is 50%.

	Avg Rev./subscriber (\$)	Renewal rate	Expected value (\$)
Year 1	300	-	300
Year 2	400	40%	160
Year 3	2900	50%*40%	2900*40%*50%=580
Total			1040

# Symphony Orchestra

- Question 5: Our competitors' CLV is \$1300. What's the first year renewal rate we need to achieve that?
  - Year 1: 300
  - Year 2:  $400 * X$
  - Year 3:  $2900 * 50\% * X$
  - $300 + 400X + 1450X = 1300$
  - $X=54\%$
- Candidate should note that going from 40% to 54% is a big jump. Is this renewal rate achievable?

# Symphony Orchestra

- Question 6: What's your recommendation?
  - I recommend that we increase renewal rate of new subscribers because they're the primary driver of our revenue. Our life value per customer is much less than our competitor's. My worry is that we might be in a declining industry and need to focus on attracting the younger generation. Next step is to conduct a customer survey to ascertain the feasibility of a 14% increase in renewal rate

# CASE 4:

## Lizard Insurance Co.

Firm Style	Interview Round
Bain & Company	1

### Case Question

Our client, Lizard Insurance, is a US. based auto insurance provider that recently acquired a rival auto-insurance company MediumSure. As a part of the acquisition, Lizard Insurance also acquired a subsidiary of MediumSure named TechSize, that provides software for many insurance companies. Lizard Insurance wants to know what they should do with TechSize, and they've brought us in to help.

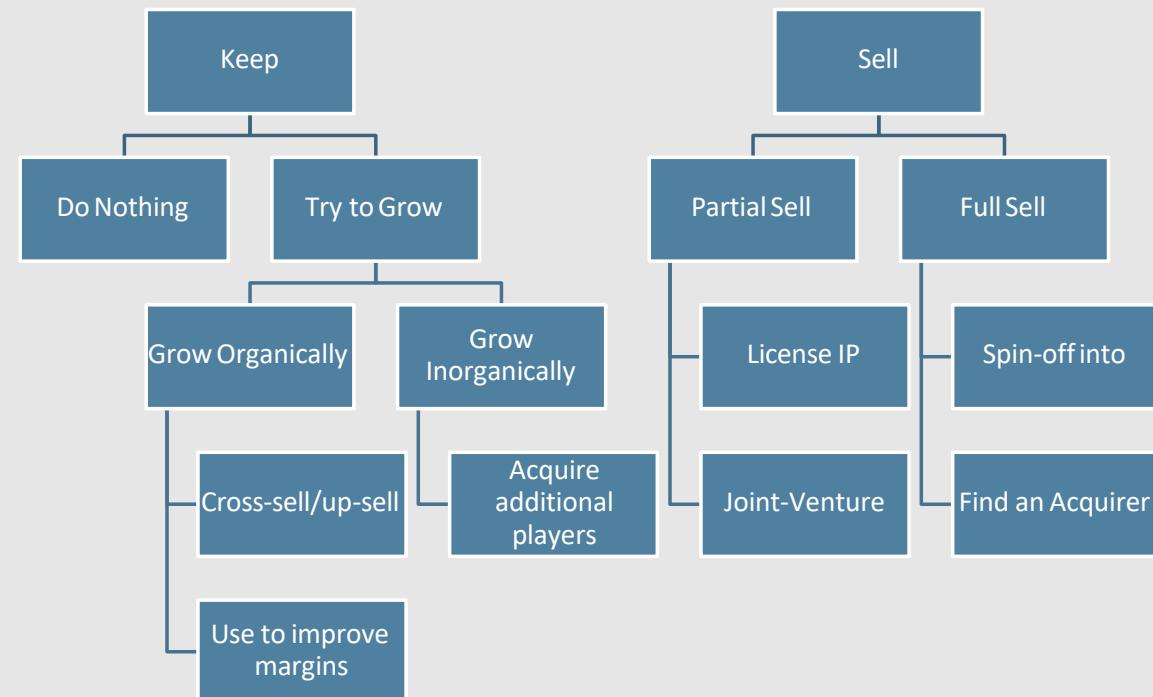
### Clarifying information (*provide only if corresponding questions are asked*)

- The TechSize software makes it easier to comply with government regulations when a customer moves from one state to the next.
- TechSize software is applicable to all types of insurance, including Auto, Health, Life, Homeowner, etc.
- Lizard Insurance does not have any experience at all in the software space.
- Lizard Insurance did not acquire MediumSure because of the TechSize piece, and did not have any plans for TechSize when they acquired MediumSure.

# Lizard Insurance Co

- Possible Framework

- A good framework should address keeping or selling the subsidiary, and expand on some basic approaches for each strategy
- A great framework will extend the thinking for each approach in a structured way.
- Great candidates will also touch on risks and opportunities for each approach.



# Lizard Insurance Co

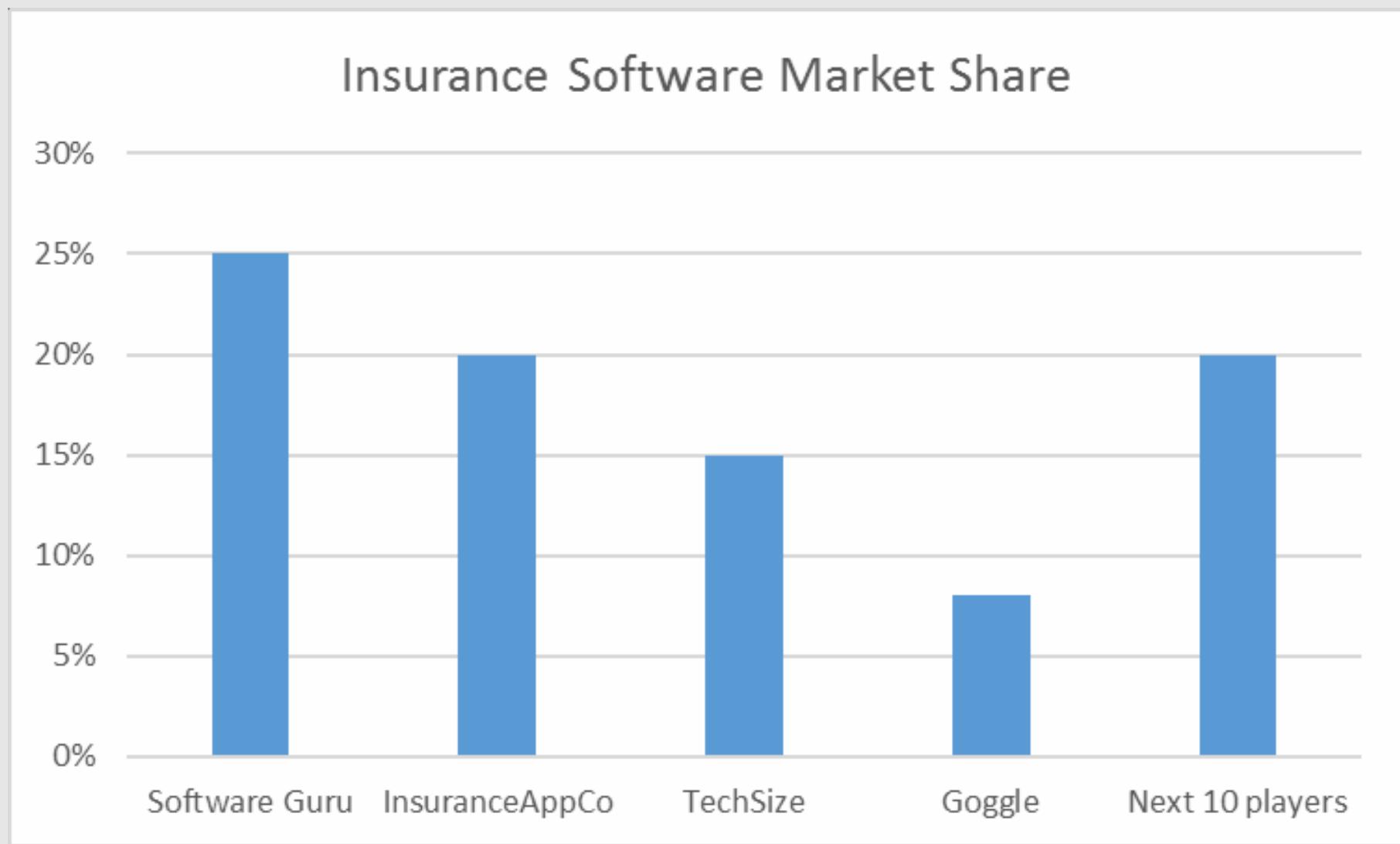
- Ask the candidate analyze the “Keep” option, and present the following information if/when asked:
  - TechSize will require substantial investments and technological upgrading within the next 2 years to maintain market relevance.
  - Given the vastly different nature of the subsidiary’s product, there are no cross-selling or up-selling opportunities between TechSize (a B2B business) and Lizard Insurance Co. (a B2C business).
  - Switching our services over to utilize TechSize would be costly, and would not reduce processing costs by any significant amount (no real cost synergies introduced with TechSize).
  - There is no appetite for additional acquisitions by Lizard Insurance of companies in TechSize’s industry.
  - There was a recent acquisition by a competitor for a company in the same industry as TechSize
- At this point the candidate should realize that the “keep” option is not attractive, and should move on to the “sell” option
  - If prompted for TechSize market information, present Exhibits 1 and 2
  - Interviewee should fairly quickly realize that the market is not growing, and is fragmented.
  - Prompt the candidate to think about how to estimate the sell value of TechSize
  - When Candidate asks about comparable sales, present them with Exhibit 3

# Lizard Insurance Co.

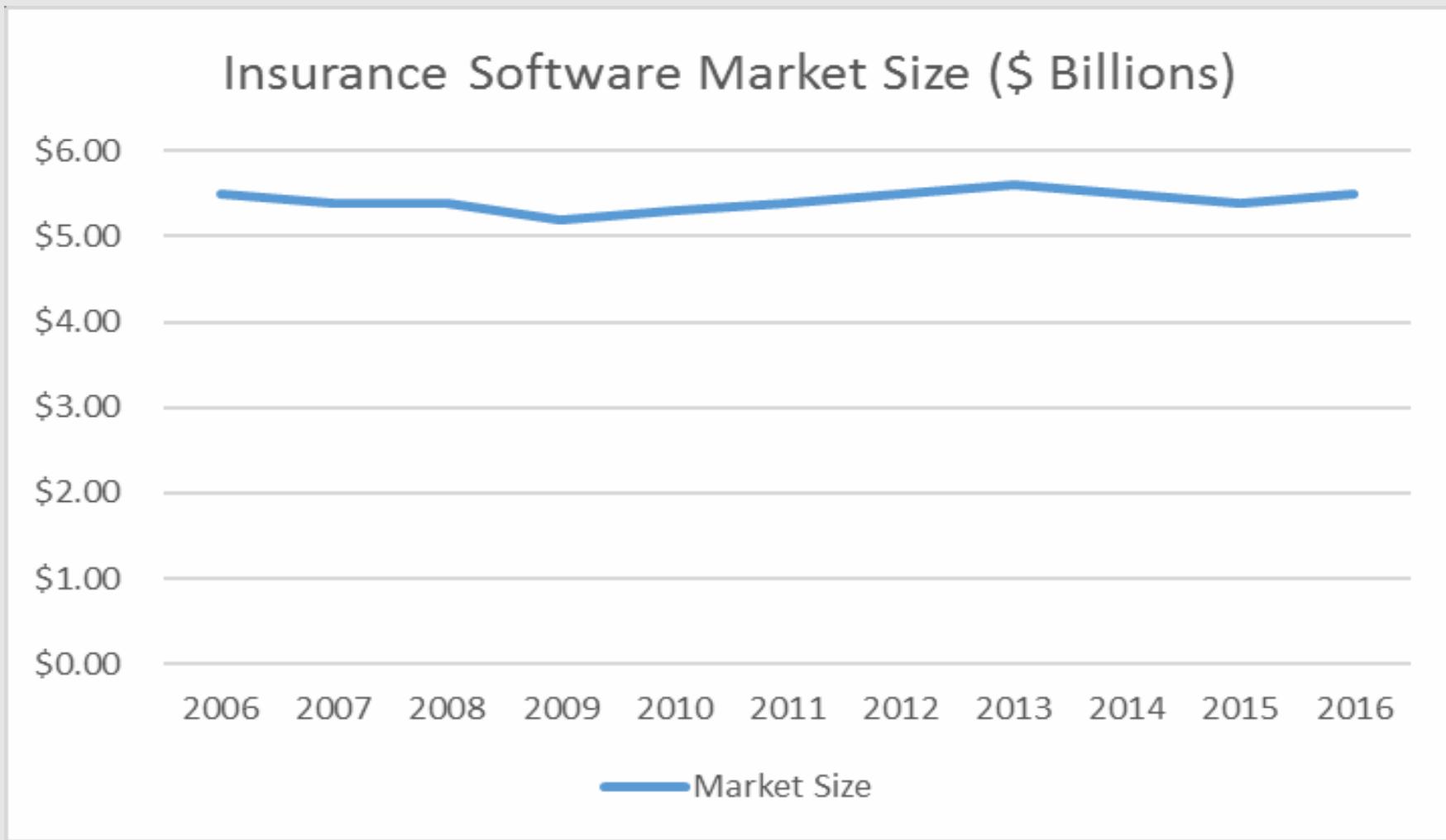
## Question: What is TechSize Possible Sale Value?

- **Sale value calculation**
  - Candidate should recognize that InsuranceAppCo is the most comparable company, and sold for roughly 5 times EBITDA. (If candidate is unaware of basic company valuation methodologies, instruct them that companies can be valued as a “multiple” of their current EBITDA.)
  - Candidate should realize that they need to calculate TechSize’s 2016 EBITDA
    - $2016 \text{ Revenue} = \text{Total industry revenue } (\$5.5B \text{ from Exh. 1}) \times \text{market share (15\% from Exh. 2)} = \$825M$
  - Candidate should ask for TechSize Operating Margin (or something similar to EBITDA as % of Revenue). **Instruct them that it is 25%.**
    - $\text{EBITDA} = 2016 \text{ Revenue } (\$825M) \times \text{EBITDA margin (25\%)} = \$206M$
  - Using the InsuranceAppCo multiple, TechSize could sell for approx. \$1 Billion.

# Exhibit 1: Insurance Software Market Share



## Exhibit 2 : Insurance Software Total Market Size



\*All Values adjusted for inflation and presented in 2016 Dollars

# Exhibit 3: Lizard Insurance Co

## Information on Applicable 2016 Acquisitions

Company Name	Description	2016 EBITDA	Selling Price
Fill-your-forms	A personalized service targeted for high net worth individuals where a lawyer can be contracted on a short term basis to fill out any forms on demand.	\$25 Million	\$125 Million
Tech Toy Company	Children's toy company that specializes developing educational toys for use in schools	\$1.5 Billion	\$20 Billion
InsuranceAppCo	Insurance software that automates elements of the insurance application process	\$300 Million	\$1.5 Billion

# Lizard Insurance Co.

## • Recommendation

- Candidate should recommend a Sale with a target price of \$1 Billion based on:
  - Comparable multiples
  - 2016 EBITDA
- A good candidate should also discuss risks, which could include:
  - Lack of buyers given recent sale in same industry
  - Giving away capabilities to competitors
  - Relying on only 1 multiple comparable might not provide a good estimate

# CASE 5:

## Nuclear Waste Disposal

Firm Style	Interview Round
BCG	2

### Case Question

Our client produces nuclear energy. The process produces a large amount of waste, and some of the components of the waste are radioactive and must undergo a special disposal process. Our client has two options for disposal, and needs our help to determine which is the most appropriate. The first option involves transporting the waste to an off-site location, and paying a 3<sup>rd</sup> party to store it for 20 years until the material is no longer radioactive. The second option involves holding the waste for 10 years, and then separating the waste into 3 components: the radioactive part, which would still be disposed of in the method described in Option 1 for the remaining 10 years; a non-radioactive piece, which the client can dispose of on-site, and nickel, which can be sold to other businesses. How should our client decide which option to use, and which choice would you recommend?

# Nuclear Waste Disposal

- Clarifying questions

- How does the client make money?
  - By selling energy. Revenue structure isn't important in this case. The candidate should focus just on the cost/benefit analysis of each disposal option.
- What happens to the waste at the end of the 20 year period for option 1?
  - The waste is disposed of at a general dump. This doesn't matter because the client is no longer responsible for the waste once it transfers to the 3<sup>rd</sup> party disposal company.
- Does the client have specific goals or standards to consider in making a choice?
  - Client's main concern is cost
- How does the 3<sup>rd</sup> party charge for disposal?
  - We pay a set fee for each kilogram of waste per year. The entire fee must be paid upfront at the time the waste is delivered.
- How much of each category is produced in Option 2?
  - Radioactive material- 10%
  - Non-radioactive waste- 80%
  - Nickel- 10%

# Nuclear Waste Disposal

- Possible framework

- A comparison chart between the two options works well. Potential categories to consider: costs, revenue streams, regulations, environmental concerns, employee safety, firm capacity
- Good candidates will recognize that the main benefit of Option 2 is that we only pay 10% of the disposal fee we would in Option 1 because so much of the waste can now be disposed of on-site, and we only pay it for half as long (10 years v 20). However, there will likely be fees/extra costs associated with the separation process.
- Excellent candidates will describe the benefits/risks of selling nickel as well, instead of just mentioning that the extra revenue source is a benefit. Does the company have a salesforce to get the nickel to market? Nickel is a commodity- does the current price justify the added expense of the separation process?

# Nuclear Waste Disposal

- Possible framework

	Option 1	Option 2
Sources of costs	<ul style="list-style-type: none"><li>Transportation to off-site location</li><li>3<sup>rd</sup> party fees</li></ul>	<ul style="list-style-type: none"><li>Holding costs</li><li>Separation process</li><li>Disposal of non-radioactive material</li><li>SG&amp;A for selling nickel</li></ul>
Additional Revenue	<ul style="list-style-type: none"><li>NA</li></ul>	<ul style="list-style-type: none"><li>Sale of Nickel<ul style="list-style-type: none"><li>volume</li><li>Price</li></ul></li></ul>
Other risks/considerations ?	<ul style="list-style-type: none"><li>3<sup>rd</sup> party vendors capacity</li><li>Are there multiple vendors, or would we be exposed to price gauging?</li></ul>	<ul style="list-style-type: none"><li>Environmental or health concerns</li><li>How competitive is nickel market? Is there excess demand?</li><li>Do any of our current clients also need nickel, or would we end up in competition with clients?</li></ul>

# Nuclear Waste Disposal

- Question1 : which method is more cost-effective?

- Hand candidate exhibit 1
- If candidate did not ask about the breakdown of radioactive, non-radioactive, and nickel in clarifying questions, tell them before they start calculations.
- Candidate can choose a weight of waste to calculate costs for. 1,000 kg is easiest
- Assume costs include labor + materials, and anything not listed is irrelevant.

	Option 1	Option 2
Transportation	$1,000 \text{ kg} * 340 \text{ miles} * \$5 \text{ per mile} = 1,700,000$	$10\% * 1,000 \text{ kg} * 340 \text{ miles} * \$5 \text{ per mile} = 170,000$
3 <sup>rd</sup> Party Storage	$1,000 \text{ kg} * \$50 \text{ per kg} * 20 \text{ years} = 1,000,000$	$10\% * 1000 \text{ kg} * \$50 \text{ per kg} * 10 \text{ years} = 50,000$
Storage at client site	NA	$1,000 \text{ kg} * 10 \text{ years} * 25 \text{ years} = 250,000$
Disposal of non-radioactive material	NA	$80\% * 1,000 \text{ kg} * \$20 = 16,000$
Separation Fee	NA	30,000
Total Costs	\$2,700,000	\$516,000

# Exhibit 1:Cost Breakdown

Item	Cost
Transportation to 3 <sup>rd</sup> party*	\$5/mile (per kg)
Storage at 3 <sup>rd</sup> party	\$50/year (per kg)
Holding at client site	\$25/year (per kg)
Disposal of non-radioactive waste	\$20/kg
Separation process	\$30,000 per 1,000 kg

\*The closest storage site is 340 miles from our client's production facility

# Nuclear Waste Disposal

- Question 2: The storage facility has considered changing its fee structure. Rather than require the full amount up front, we would have the option to pay a 20% deposit upon delivery and the rest of the fee at Year 10. Would this change your analysis?
- Interviewer guidance:
  - This should spur the candidate to discuss NPV. IT IS NOT NECESSARY FOR THE CANDIDATE TO CALCULATE THE NPV.
  - A good candidate will have the intuition to know kicking out the bulk of the fee would make Option 1 more attractive but wouldn't have a big impact on Option 2, since the fee is much smaller and not paid until 10 years later anyways.
  - An excellent candidate will ask about the company's discount rate and state how a higher or lower rate would impact the calculations.

# Nuclear Waste Disposal

- Question 3: What revenue can our client expect for each kilogram of waste the plant produces?
  - Candidate should realize that they need the price and quantity of nickel
  - The quantity of the nickel can be worked out from the previous information
  - When the candidate asks about the price, provide the following information:
    - To formulate nickel for commercial sale, nickel byproduct from the nuclear waste is combined with a filler. Each kilogram of nickel sold is  $\frac{1}{3}$  nickel byproduct and  $\frac{2}{3}$  filler. Nickel is currently selling for \$12 per kilogram.
    - If the candidate asks about the cost of the filler, tell them that it is negligible and can be ignored at this point

# Nuclear Waste Disposal

- Math:

- Consider our original 1,000 kg batch. It yields 100 kg of nickel byproduct. To maintain the 1/3 nickel to 2/3 filler ratio, we would combine the byproduct with 200 kg of filler, which yields 300 kg of nickel.
- $300 \text{ kg of product} / 1,000 \text{ kg of waste} = .3 \text{ kg of product per kg of waste}$
- $.3 * \$12 = \$3.60$  revenue for each kg of waste

# Recommendation

- The candidate can recommend either option, as long as it is supported by solid reasoning and considers the applicable risks. Candidate should focus on cost, as this was client's original criteria. Sample reasoning/risks include:

	Option 1	Option 2
Reasoning	<ul style="list-style-type: none"><li>Vendor takes ownership sooner</li><li>Under new fee structure, more cash on hand for other projects</li></ul>	<ul style="list-style-type: none"><li>Cheaper option</li><li>Diversifies our revenue streams</li><li>Could be seen as more environmentally friendly</li></ul>
Risks	<ul style="list-style-type: none"><li>Susceptible to fee hikes, space limitations</li></ul>	<ul style="list-style-type: none"><li>Selling nickel is a new capacity to build</li><li>Keeping radioactive material on site is a safety concern</li></ul>
Next steps	<ul style="list-style-type: none"><li>Explore additional vendors to have choices</li><li>Structure contract to include more favorable terms- ie discounts above certain number of kgs, contract to lock in current pricing</li></ul>	<ul style="list-style-type: none"><li>Research safest way to hold radioactive material to limit liability to workers</li><li>Investigate distribution channels for nickel</li><li>If separation plant has excess capacity, consider contracting with other nuclear energy producers</li></ul>

# CASE 6: SB Choppers

Firm Style	Interview Round
Strategy&	1

## Case Question

SB Inc is an Airforce and Defence company based out of California, primarily engaged in manufacturing military grade choppers. They have seen tremendous growth for the past 5 years but the last year has been very rough. The outlook for the next few years looks worrisome and their new CFO has called you for your advice on immediate next steps.

## Clarifying information (*provide only if corresponding questions are asked*)

- What are the products?
  - They manufacture high specification helicopters to order – typical order takes 2 – 3 years from order receipt to delivery. They manufacture 3 variants from 3 different facilities
- Who are the clients?
  - They historically sold only to the United States Armed Forces
- ‘Very bad’ with revenues or profits?
  - The order pipeline and operating profits, both declined drastically; No significant cost changes

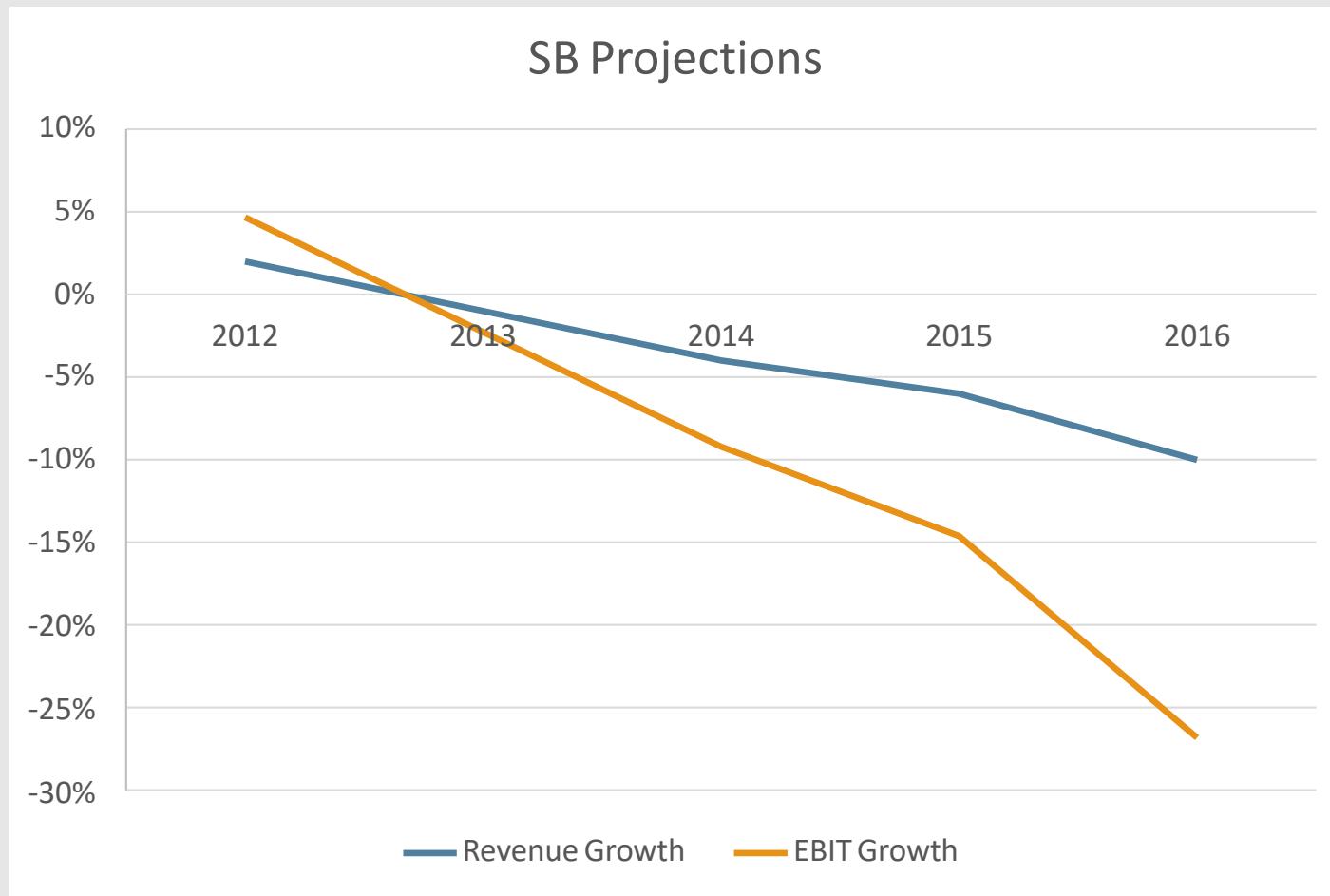
# SB Choppers

- Question 1: Can you come up with a framework for a comprehensive evaluation of the situation
    - Weak: Simple profitability-Revenue vs. Cost
    - Good:
      - Breaks out revenues – price, orders, product mix
      - Breaks out costs – Fixed (Facilities, SG&A), Variable (COGS, labor)
      - Discusses Market – Stagnation, changing preferences, potential other avenues for selling their choppers
      - Discuss competition
    - Great:
      - Discuss the possibility that fixed costs might be driving the operating profits down (given the high Capex requirement for manufacturers)
      - Discuss product mix and customer portfolio as potential areas to look into
- (probe the interviewee towards inferring that the government has purchased too many choppers in the last few years, and the changing customer preferences – possibly drones and UAVs)*

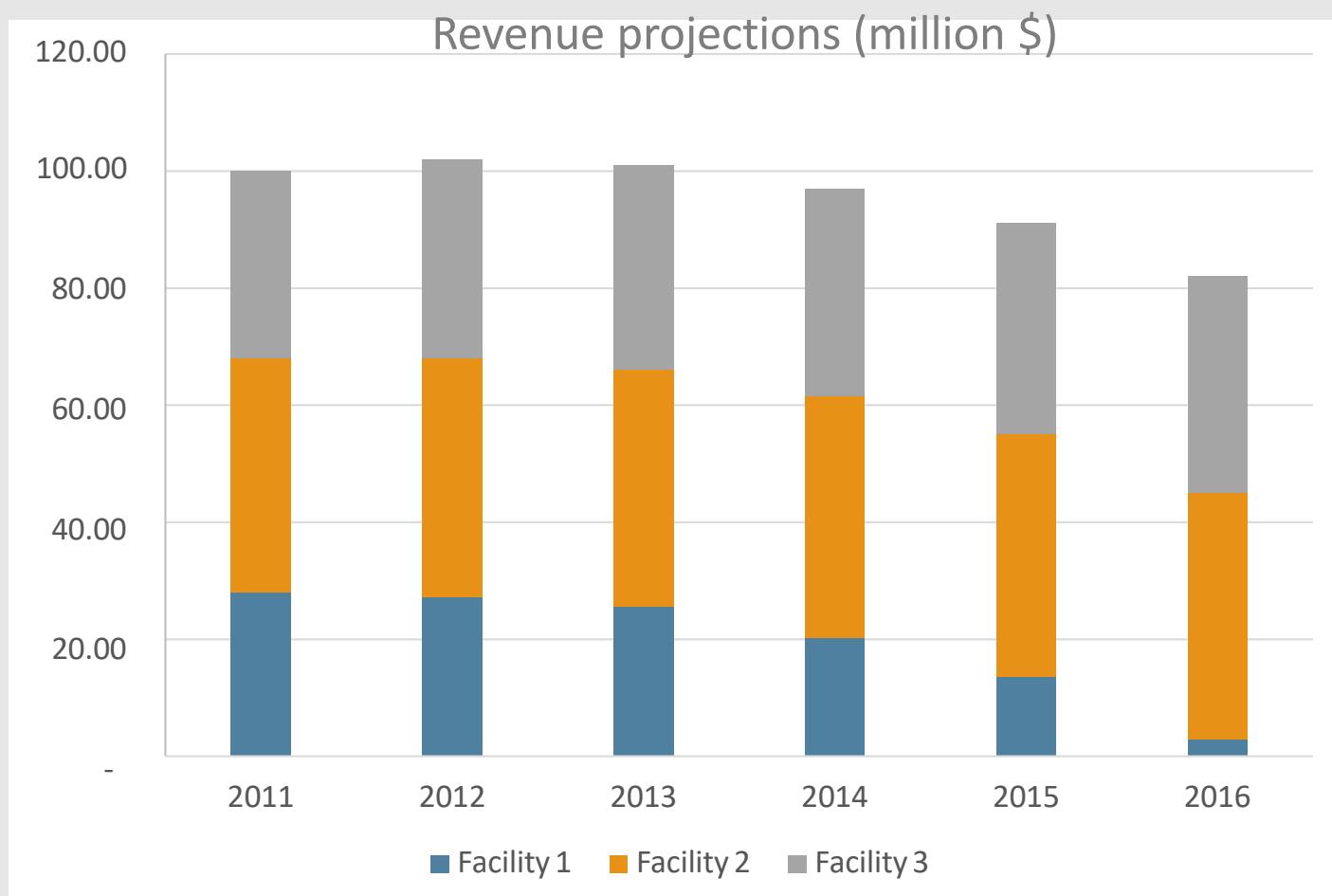
# SB Choppers

- Question 2: Exhibit 1 shows the projected financials for the next 5 years. Based on these figures, what can you suggest to the client?
  - When interviewee infers that operating profits are declining faster than revenues are, and ties it to high overheads, show him exhibit 2. And mention that each facility equally contributes to the fixed overheads.
  - The interviewee must be able to infer that to improve operating profits, they could shut down facility 1.

# SB Choppers: Exhibit 1



# SB Choppers: Exhibit 2



# SB Choppers

- Question 3: What are the other potential avenues our clients should consider to sell choppers?
  - A strong candidate will have a structured approach to answering this question. Possible answers could include:
    - Government:
      - Other US departments: Coastguard, Homeland & PDs;
      - Non-US: Armed forces of overseas governments
    - Commercial:
      - O&G: Oilfield Services
      - Leisure and Travel: Private tourism and transportation; HNIs
      - Other Corporate: ex. Media producers
    - Non-profit:
      - EMS (Emergency Medical Services)
  - Try to lead the candidate towards O&G and EMS as potential options

# SB Choppers

- Question 4a: The CFO is considering two options: O&G Offshore service providers, and EMS providers. Which do you think has higher potential?
  - A strong candidate should approach this using a structured and logical approach
  - Possible analysis could include **financial capability** and **product fit**:
    - Military grade choppers (current product portfolio) are heavy-duty machines with high specifications, compared to the lighter machines used by EMS teams. Offshore rigs are located in remote locations with harshest of climates, and the client's all-weather high-altitude machines better align with the needs of this industry.
    - EMS budgets are highly regulated and limited, while O&G companies have more flexibility in allocating budget and switching vendors
- Question 4b: What are the primary factors you would consider in evaluating the opportunity for your choice?
  - A strong candidate should expand on their answers to 4a
  - Possible factors include:
    - Financial capability:
      - The main driver of the capex in O&G is the price of crude oil, (ask the interviewee if he/she knows the current crude oil price) therefore crude price will determine the viability of this industry as a potential market.
      - The interviewee can go beyond crude oil price and mention looking into the analyst guidance and outlook provided by major O&G companies to see what is their appetite for investing and what is the scope of selling choppers to the O&G industry
    - Product fit:
      - How does our product compare with choppers currently used in the O&G industry? (in terms of specifications, price)
      - What changes would we need to make to make our product appealing to the O&G industry?
  - Interviewer may keep probing 'What else will you look at?' and encourage the interviewee to explore other factors in evaluating the market entry, such as competition, regulations, etc

# SB Choppers

- Question 5: Can you make a recommendation to the client?
  - A strong candidate will provide a clear recommendation based on evidence
  - Recommendations can include:
    - In the short term, close down facility #1 to reduce fixed costs and increase profitability
    - In the long term, enter O&G industry to increase revenues
  - A strong candidate will also touch on risks and next steps
    - Risks: entering a new market could require large initial investment; product-market fit might not be there, competition may be strong
    - Next steps: collect more information on the O&G industry to better understand the landscape

# CASE 7:

## Hot and Cold Calls

Firm Style	Interview Round
McKinsey (Operations)	Final

### Case Question

Our client is national distributor of commercial and industrial HVAC (Heating Ventilation and Air Conditioning) Systems. They have recently experienced increasing costs in their service operations which are composed of two elements: (1) a call center and (2) regional field service teams. They have contracted us to address this issue and provide recommendations for improvements.

### Clarifying information (*provide only if corresponding questions are asked*)

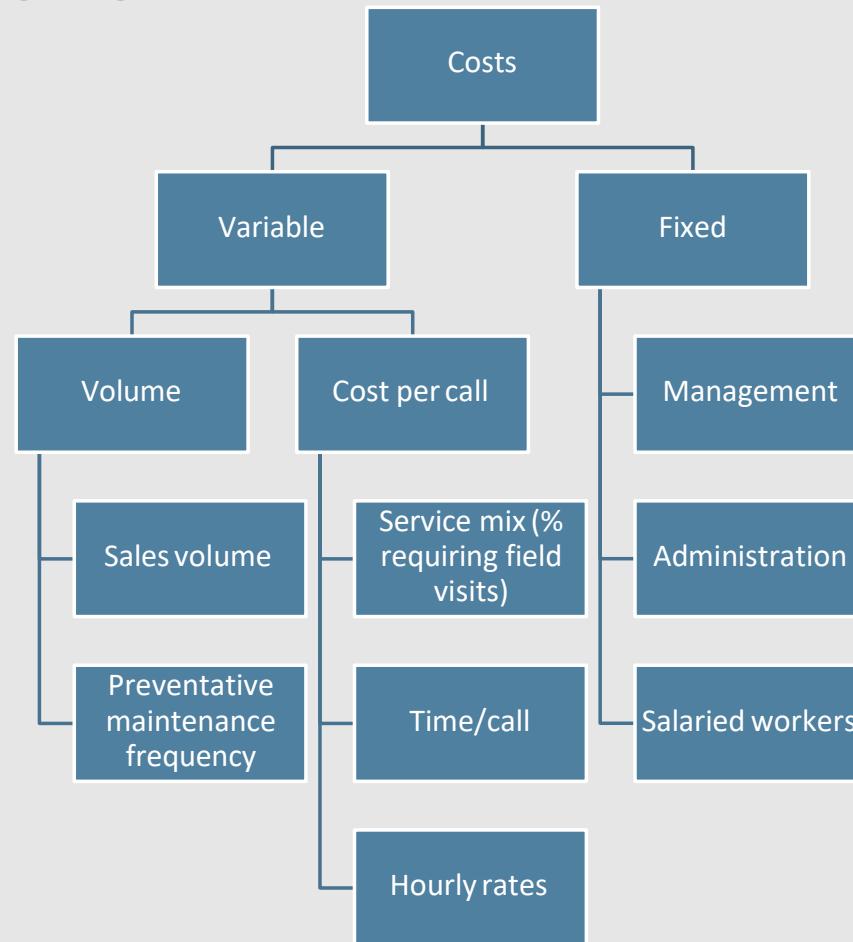
- Costs: Costs have increased over time (no specific target, but the client would like to have recommendations for the short term).
- Client: HVAC distributor – client does not manufacture the systems, they install and service the systems (think heating or air-conditioning units in apartment complexes or factories).
- A “Service Call” includes both the initial phone call to the call center as well as the deployment of a service team (if required).
- Company generates revenue in a number of different ways/service contract types, but for the purpose of this case, we are focused on reducing costs.

# Hot and Cold Calls

- Question 1: What are the drivers of costs for the client's service operations?
  - Candidate should develop framework that looks at costs in a structured way:
    - Includes both the call center and the field service teams
    - Identifies that total cost is driven by call volume and cost per call
    - Breaks down cost into fixed (overhead) and variable (hourly labor, materials, transportation)
    - Framework should be tailored to the client
  - A strong candidate will identify less obvious drivers of cost
    - Increasing cost pressures across the board are leading companies to keep their HVAC systems longer, driving up maintenance costs
    - Different HVAC systems may be more or less reliable—is the client selling the most reliable systems to its customers?
    - Costs from unnecessary field visits

# Hot and Cold Calls

- Sample Framework:



# Hot and Cold Calls

- Question 2: The client wants to explore a technology that monitors the performance data of its systems and transmits it back to the call center. Should they invest?
- Provide the following up front:
  - The client has 50,000 systems installed, and on average each system generates 3.5 service calls per year
  - 60% of calls are routine, and 40% are complex
  - The total cost to implement the technology is \$20 million
- When asked, provide
  - It costs \$200 to address a routine call, and \$500 to address a complex call
  - The technology will eliminate 90% of routine calls and 10% of complex calls
  - The \$20 million includes all retrofit costs—no variable cost component

# Hot and Cold Calls

- Question 2 Math
  - $50,000 \text{ systems} \times 3.5 \text{ calls per system per year} = 175,000 \text{ calls per year}$ 
    - $175,000 * 60\% = 105,000 \text{ routine} \times 90\% \text{ reduction} = 94,500 \text{ eliminated}$
    - $175,000 * 40\% = 70,000 \text{ complex} \times 10\% \text{ reduction} = 7,000 \text{ eliminated}$
    - $94,500 * \$200/\text{call} = \$18,900,000$
    - $7,000 * \$500/\text{call} = \$3,500,000$
  - Total Savings – Investment =  $\$22.4M - \$20M = \$2.4M$
  - A strong candidate will recognize that the savings continue into future years while the investment is one-time-only, so the benefit is even higher

# Hot and Cold Calls

- Question 3: What are some other ways the client could reduce service costs?
  - The candidate should brainstorm in a structured way, referring back to their framework as a guide
  - Possible answers include:
    - Better training of technicians
    - Outsourcing call center function
    - Improve service quality to reduce volume of repeat calls
    - Train customers to do routine/preventative maintenance on their own
    - Unbundle service contracts from installation and sell separately

# Hot and Cold Calls

- Question 4: The client is also wondering whether their service contracts are structured optimally. Can you advise them?
- Interviewer should provide the following information:
  - Currently, the client charges a flat \$140,000 per system per year
  - If they were to switch to charging per service call, how much should they charge to generate the same revenue? Assume they didn't implement the technology from Question 2
  - Based on this result and any qualitative factors you can think of, would you recommend making this change?

# Hot and Cold Calls

- Question 4 math:
  - Remember from Q2 that each system generates 3.5 calls per year, so the breakeven price is  $\$140,000/3.5 = \$40,000$
- A recommendation either way is acceptable, as long as it is well supported
- A good argument in favor might include:
  - Captures more revenue for customers who have more than the average number of service calls
  - Older machines break down more frequently, generating more revenue
  - Could enable client to price discriminate—adjust call price depending on the specific issue being addressed
- A good argument against might include:
  - \$40,000 per call is a high price—customers might push back or find alternative maintenance options
  - Flat fee structure enables better revenue forecasting, with less variability

# Hot and Cold Cases

- Question 5: Based on this conversation, what is your recommendation to the client?
  - A strong candidate will offer a structured, well-articulated, and comprehensive summary of the case, pulling in data from each question and identifying risks and next steps associated with each recommendation

# CASE 8:

## Seven Flags

Firm Style	Interview Round
Bain	2

### Case Question

Our client is a mid-size amusement park chain, with 10 parks around the U.S. serving over 10 million visitors each year. In their Richmond, Virginia park, they operate both a typical thrill-ride section, as well as an animal experience. (**Show park map**). Currently, the two sections are covered under one overall ticket price. However, they are considering offering a separate ticket for only the animal experience section. They have come to us to determine if this is a good idea.

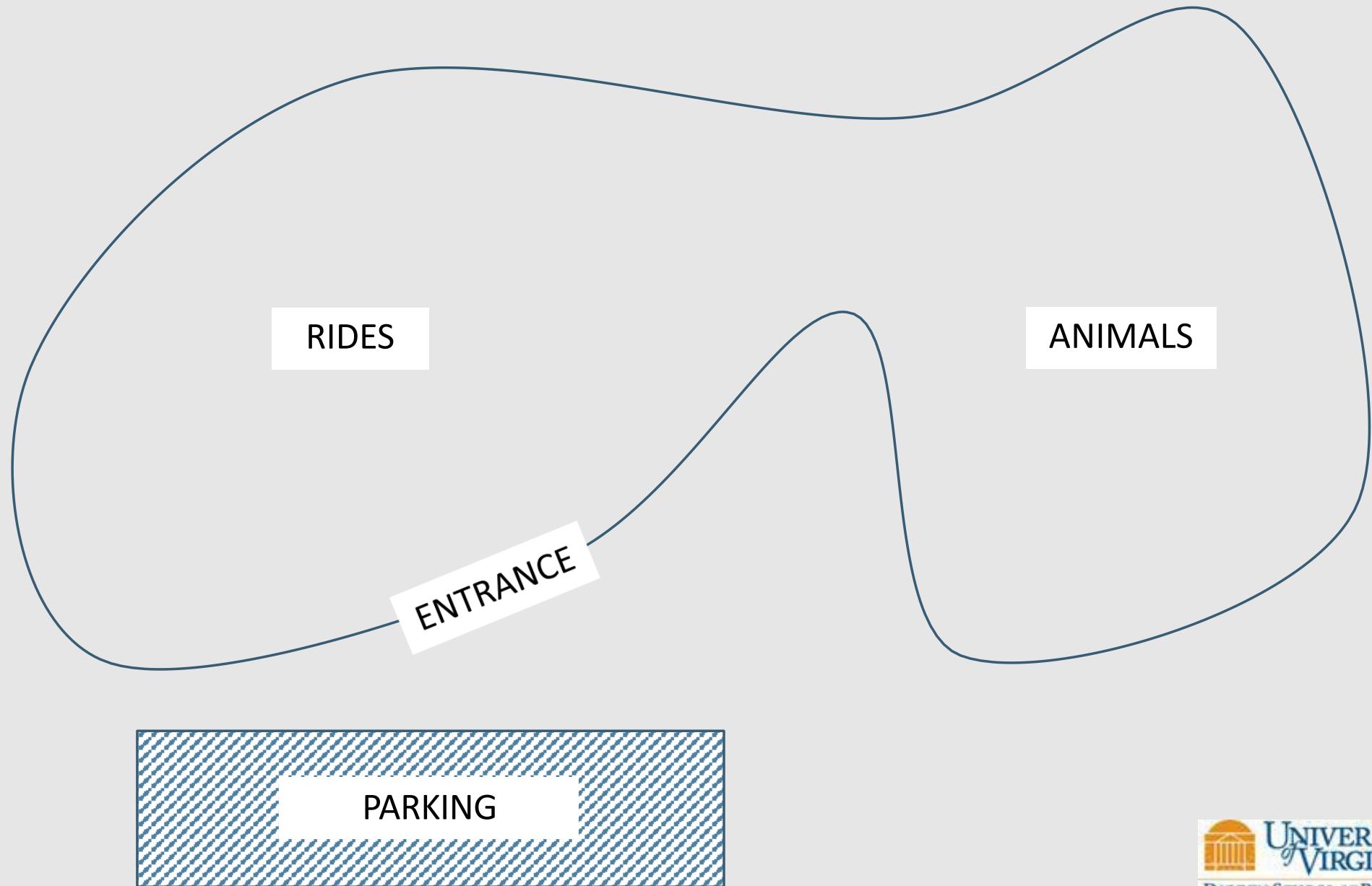
### Clarifying information *(provide only if corresponding questions are asked)*

Do they have a specific goal?	Payback period < 10 years
What is the current ticket price?	\$20
What is this specific park's usual visitor volume?	They are an average sized park within the client's portfolio.

## **Clarifying information (provide only if corresponding questions are asked)**

What is the value chain?	They are a typical amusement park (think Six Flags or King's Dominion). Visitors buy a ticket for entrance (same price for kids and adults), and all rides/amusements within the park are accessible under the one ticket price. The park also sells merchandise and food/drinks separately.
Are they considering any other options for operating their park or pricing?	No, this is the only thing they are currently considering, but they would be open to our recommendations.

# Exhibit 1: Seven Flags Park Map



# Seven Flags

- Framework
  - Candidate should recognize quickly that this is a pricing and breakeven question and begin constructing an appropriate framework including a breakdown of the components of profit, competition, macro trends, etc.
- A good framework should include
  - Profit
    - Revenue: ticket prices, food & drink sales, merchandise, visitor volume, cannibalization of “ride + animal” ticket sales
    - Existing Costs: maintenance, animal care, labor/operations, COGS (merchandise, food)
    - New Costs: new entrance, enclosure/wall to separate parks, new parking for added visitors
  - Competition
    - Other attractions in area; zoos, museums, movie theaters, petting zoo, state fairs
  - Macro Trends
    - Changes in disposable income, weather conditions, consumer entertainment preferences (digital)
- Note to interviewer: key insights include pricing decision, cannibalization impact, and recovery of new fixed costs. If candidate does not identify these in his/her framework, push him/her to brainstorm incremental changes in revenue and costs.
- When asked about pricing, ask candidate how he/she would determine price. Then show candidate Exhibit 2.

## Exhibit 2: Price Elasticity



Note:

- cannibalization rate is 50%
- establishment is open 350 days/yr

# Seven Flags: Pricing Calculation

- Candidate should calculate annual revenue for each pricing strategy. See below for solution.

Ticket Price	Number of Visitors	Cannibalization Rate	New Tickets	New ticket Revenue	Cannibalized Tickets	Cannibalized revenue per person (current ticket \$20)	Daily cannibalized revenue	Net daily incremental revenue	Net yearly incremental revenue
A	B	C	$D = B*(1-C)$	$E = A*D$	$F = B*C$	$G = A - 20$	$H = G*F$	$I = H+E$	$J = I*350$
\$10	260	50%	130	\$1,300	130	(\$10)	(\$1,300)	\$0	\$0
\$12	220	50%	110	\$1,320	110	(\$8)	(\$880)	\$440	\$154,000
\$14	140	50%	70	\$980	70	(\$6)	(\$420)	\$560	\$196,000
\$16	100	50%	50	\$800	50	(\$4)	(\$200)	\$600	\$210,000

- Revenue is maximized at the \$16 price point.
- Great candidate will mention how sensitive the answer is to the cannibalization rate assumption

# Seven Flags

- Aside from volume of ticket sales, what are some other considerations that will factor into the decision?
  - Can break this into internal and external or costs and revenue.
  - Additional costs include: new entrance, building a wall to separate rides from animal enclosures, additional parking, additional employees to operate new entrance, new food stands, advertising.
  - Increased revenue may include: new customer food/drink sales, merchandise sales, etc.
  - Once candidate is done brainstorming and mentions additional costs, give following info and ask for breakeven:
    - Fixed Costs: \$2 million for construction of new entrance, wall, and parking.
    - Only consider increased revenue from previous ticket sales analysis

# Seven Flags: Payback Period

- Next, the candidate should recognize that he/she needs to do a breakeven calculation to identify the number of years to recover the fixed cost of investment (\$2M).
- Note: candidate only needs to calculate payback period at the \$16 price point.

Payback period = Investment / incr. annual rev.

$$\text{~9.5 years} = \$2M / \$210,000$$

# Seven Flags: Recommendation

- Good recommendation:
  - Recap prompt, recommendation of pricing strategy, identify risks, next steps
    - Recommendation: include suggested price (\$16/ticket) & payback period of 10 years, & recommendation to move forward with project or not. No correct answer.
    - Potential risks may include: cannibalization, other investment opportunities, uncertainty in forecast of assumptions etc.
    - Potential next steps depend on go/no go decision and potential risks identified. Next steps should work to mitigate risks.
- Strong recommendation:
  - Candidate recognizes that investment payback period will decrease if animal park can sell an additional \$1-2 of merchandise/food per person to new visitors.
  - Strong candidate will also cover risks and next steps.

# CASE 9: Mighty Meats

Firm Style	Interview Round
McKinsey	1

## Case Question

Our client, Mighty Meats (“MM”), is the UK’s largest chicken processor with more than \$2b sales per year. MM buys chicken, slaughters them, processes, packages and then ship them to major supermarket chains in the UK. MM has gone through rapid consolidation since the 1990s by acquiring competitors or failing business assets. MM is good at quick turnaround with limited investment. The growth in the past few years has been stagnant, and profitability has gone down. The new CEO, owner from another food processor, came to McKinsey for help.

## Clarifying information (*provide only if corresponding questions are asked*)

- ***What is the target?*** No specific target, just want to look for ways to improve profitability
- ***Any additional products aside from chicken?*** We only want to focus on chicken
- ***Do they sell internationally?*** Not at this point

# Mighty Meats

- Framework

- The key here is to be structured and MECE
- Sample framework
  - Revenue
    - Price
    - Volume
    - Product mix
  - Cost
    - FC: PP&E, SG&A, Energy, machinery, factory, Insurance
    - VC: Processing costs/bird; purchase price/bird; packaging costs/bird
  - Other
    - Acquisition history and if synergies failed
    - Industry regulation
    - Competition
    - Market trend (substitutes)

# Mighty Meats: Exhibit 1

	MM	KC
Average # of birds processed per week per site	300,000	500,000
Average Processing cost/bird	30 cents	20 cents

# Mighty Meats

- Question 1: Compare MM's average processing cost per bird to competitor KC's. What's your conclusion?
  - Key insight 1: MM's average processing cost per bird is 50% higher than that of KC
  - Key insight 2: the average number of birds processed per week per site is higher for our competitor, which could point to economies of scale
  - A strong candidate will also ask for further information to validate their hypothesis

# Mighty Meats

- Question 2: Why is our processing cost per bird higher?
  - Key is to remain structured in this part, and focus on the drivers of cost
  - Possible structure:
    - **FC:** maintenance costs are higher (old factories, # of factories); processing process more complex (larger birds, more outdated technology, less efficient plant layout)
    - **VC:** purchase price per bird is higher (mix/number of suppliers; negotiation power), packaging expense higher (vacuum package or fancy wrappings, more labor intensive), transportation cost higher (site far away from suppliers), labor cost higher (union regulations)
    - **Volume:** economies of scale in processing, higher negotiation power in sourcing

# Mighty Meats

- Question 3: What would you do to address each potential area?
  - Remain structured and refer back to brainstorm of cost drivers from Q2
  - Possible answers:
    - **FC:** update tech/machinery to increase efficiency, outsource portions of production
    - **VC:** sourcing (supplier consolidation, contract negotiation), process streamlining (reduce labor costs)
    - **Volume:** consolidate factories to gain economies of scale, increase volume per run to maximize machine efficiency

# Mighty Meats

- Question 4: 1 out of our 10 factories processes big birds only, and the other 9 processes normal sized birds. What's the normalized processing cost per bird?
  - Provide the following info:
    - The Big Bird factory processes 600,000 birds/week
    - The 9 Normal Bird factories processes 266,000 birds/week
    - It costs 2x to process a big bird compared to a normal bird
  - Solution:
    - Total cost/week : \$0.3 (per bird)\*300,000 (birds processed per week per site) \*10 (sites) = \$0.9M
    - Set the NB processing cost as x. Total costs/week can be calculated as \$3.6M\*x as laid out in the table below

Processing Cost/Bird [A]	Weekly Volume/Site [B]	No. of Site [C]	Total Weekly Processing Cost [D] = [A]*[B]*[C]
Normal Birds	x	266,000	9
Big Birds	2*x	600,000	1
<b>Total</b>			$\approx 3.6M*x$

- Total costs/week = \$0.9M = \$3.6M\*x;  $x=\$0.25$
- NB Cost/Bird = \$0.25; BB Cost/Bird =  $2*\text{NB Cost/Bird} = \$0.50$
- Candidate should point out that the normalized bird processing cost is lower but still higher than the competitor, which points to other potential areas to reduce cost

# Mighty Meats

- Question 5: The average price per kilo for chicken has gone down. Why is that?
  - The key is to remain structured & creative. Candidates should start with a list of higher level buckets and drill down to specific ideas under each bucket.
  - Possible answer:
    - Supply side: more competitors entering the market, more efficient breeding technology yielding more birds, new tech that decreases the cost of processing & distributing
    - Demand side: consumer preference moving away from chicken, threat of bird flu impacting sales

# Mighty Meats

- Question 6: What is your recommendation to Mighty Meats?
  - The key is to be structured, clear and succinct in your answer
  - A good answer will include the following components:
    - Clear recommendation up front
    - Strong supporting facts
    - Relevant risks and next steps
  - Sample recommendation
    - I recommend for MM to reduce their cost through 1) normalizing bird size and 2) consider further facility consolidation. One risk is that market price for chicken may be falling, so the next step should be to look into diversification options.

# CASE 10:

## Vitamin Universe

Firm Style	Interview Round
McKinsey	1

### Case Question

You have been tasked by a private equity investor to determine whether or not you should buy Vitamin Universe. Vitamin Universe sells supplements and has 1,000 stores nationally in malls. How would you advise our client?

### Clarifying information (*provide only if corresponding questions are asked*)

- Vitamin Universe operates only in the U.S.
- Vitamin Universe does not operate any production facilities, they source all products from manufacturers and sell in their retail locations
- They currently do not have any ecommerce capabilities
- The PE firm is mainly concerned with Vitamin Universe's profitability and growth

# Vitamin Universe

- Framework
  - The key is to be structured and MECE
  - Possible framework:
    - Profitability analysis
      - Revenue/cost/mix
    - Customer analysis
      - Segmentation/preferences
    - Market trends
      - Size/growth/notable trends
    - Competitors
      - Positioning/new entrants
    - Exit opportunities
      - EBITDA multiple/Potential buyers
    - Synergies with the client's other portfolio companies

# Vitamin Universe

- Question 1: The team decided to first look at the overall industry. What are some of the main drivers of the industry?
  - Possible answer:
    - Customers
      - Current & new segments: size & growth rate
      - Generational differences
    - Channels
      - Retail trends
      - Ecommerce
    - Health trends
      - Diet?
      - Organic?
    - Competitors
      - Current key competitors
      - New entrants
    - Suppliers
      - Supplier power
      - Supplier concentration
    - Product & substitute
      - Key product types
      - Potential substitutes (e.g. herbal medicines, etc.)

# Vitamin Universe

- Question 2: Men between the ages of 18-34 are the heaviest users of fitness products, and 30% of them shop at Vitamin Universe. They spend on average \$50 a month at Vitamin Universe, and the gross margin is 50%. What would it mean for our profit if we increased market share to 35%?
  - Step 1: market sizing
    - Candidate should start with the total population of the U.S., then break down by gender and age group to arrive at the total number of men between 18-34 years old
    - Sample calculation:
      - 300M people total in the U.S.
      - 150M are men
      - 18-34 is 17 years, assume the average age is 85,  $85/17=5$
      - $150M/5=30M$  addressable market
      - $30M \times 30\% = 9M$  current market

# Vitamin Universe

- Step 2: Profit calculation
  - Candidate should calculate both and current and new profit
  - Current profit:
    - $9M * \$50 (\text{spend per month}) * 12 (\text{months}) * 50\% (\text{margin}) = \$2700M$
  - Profit if 35%:
    - $5\% (\text{increase}) * 30M (\text{total addressable}) * \$50 * 12 * 50\% = \$450M$
    - $450/2700 = 17\%$  increase in profit
  - Candidate should note that gaining an additional 5% market share would yield a significant increase in profit, which points to this being a valuable purchase for the PE firm

# Vitamin Universe

- Question 3: The PE firm requires a 50% increase in profits.  
What are some of the ways to increase profits?
  - The key is to be structured and creative
  - Sample answer:
    - Increase revenue
      - Grow core market
      - Expand into new markets
      - Develop new products & optimize product mix
      - Expand into new channels (e.g. online) & optimize channel mix
    - Decrease cost:
      - Source materials in bulk & supplier mix optimization
      - Optimize distribution chain to reduce cost
    - Inorganic growth:
      - Collaboration with fitness clubs
      - Acquire competitors

# Vitamin Universe

- **Recommendation**

- Key is to be clear and succinct. The recommendation should be action-oriented, with 2-3 key supporting facts. The candidate should also note 2-3 key areas of considerations and potential next-steps.
- Sample answer:
  - I recommend for our client to purchase vitamin universe because 50% profit growth is achievable due to their highly profitable core market and untapped potential from channel expansion. One risk is that this highly profitable industry could draw new entrants, therefore our next step should be to conduct a thorough competitive landscape review.

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