

Darden Case Book

2018-2019 Edition



Darden School of Business



Darden Case Book 2018-2019 Foreword



New
Material +
12 Total
Cases

The cases featured in the 2018-2019 Case Book are some of Darden's best cases from prior years

This case book adds a new consulting industry guide, a revamped company profile page, and 12 total cases

6 New
Cases

The 2018-2019 Case Book features 6 brand new cases that will test a broad array of knowledge areas and math concepts

5
Writers

The 2018-2019 Darden Case Book has been made possible by Darren Constantine (MBA '19), Stephen Mortensen (MBA '19), Pedro Lemos (MBA '19) Seun Odekunle (MBA '19), & Caitlyn Unsworth (MBA' 19)



Darden Case Book 2018-2019 Index



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Updated Darden Cases	114-177



Darden Case Book 2018-2019 Index



Case Title	Firm	Industry	Round	Difficulty Quant / Qual / OVR*	Page
National Express Trucking	(N)* Bain & Co.	Transportation	1	1 2 1	48
Styrofoam Situation	(N) BCG	Financial / PE	2	1 2 1	58
North-South Pharma	(N) AT Kearney	Healthcare	1	2 2 2	68
Fire Proof Inc.	(N) Parthenon EY	Manufacturing	1	2 2 2	83
Quality Bottling Co.	(N) Parthenon EY	Manufacturing	1	2 3 2	93
Canyon Capital	(N) Bain & Co.	Financial / PE	2	3 2 3	105
Transportation Tech Co.	(R)* Parthenon EY	Transportation	1	2 2 2	114
Lonely Gas Station	(R) BCG	Financial	2	3 1 2	126
Copier Co.	(R) BCG	Consumer	1	3 1 2	136
Maxicure	(R) McKinsey	Healthcare	1	3 2 2	147
To Automate or Not	(R) BCG	Retail	2	2 3 3	156
Rubber Bumper Laboratories	(R) McKinsey	Manufacturing	1	3 3 3	167

*(OVR) Denotes overall case difficulty



(N) Denotes new cases to the Darden case book (R) denotes refurbished cases

Recruiting Schedule & Tips for Success

The background image shows a grand, classical-style building with multiple wings, arched doorways, and a prominent central entrance. The building is set against a backdrop of a vibrant sunset or sunrise, with the sky filled with warm orange, yellow, and pink hues. The overall atmosphere is one of academic prestige and historical significance.



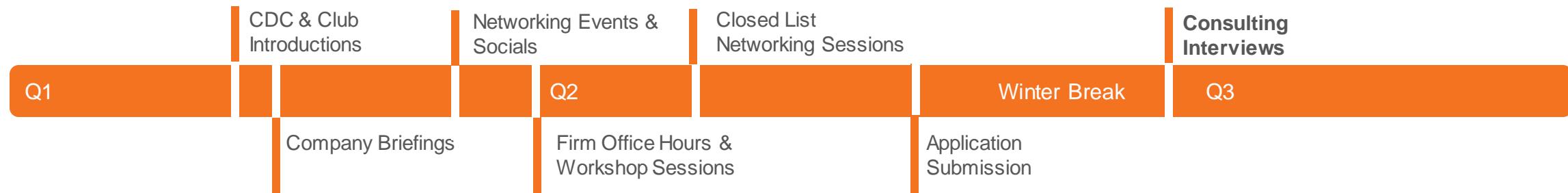
Consulting Recruiting Schedule

August September October November December January February

Second Year Time-line



First Year Time-line



FY Case Progression Tracker:



12/25

18/25

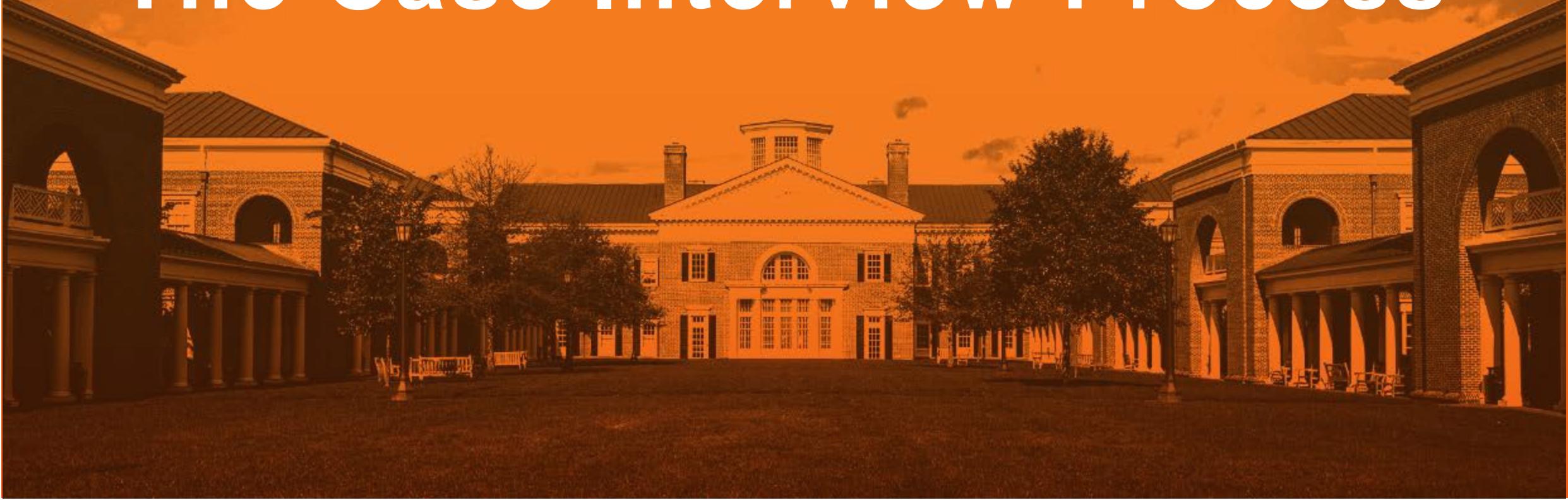
23/25

25/25

*(Case score is based on the score sheet placed at the end of each case)



The Case Interview Process





Non-Verbal Communication (Tips for Success)

Communicating the correct message non-verbally is as important as the content that is communicated in a case interview. In order to recommend a candidate, interviewers must:

1. Feel comfortable putting the candidate in front of a client
2. Believe they would enjoy spending 60+ hours a week with the candidate on a project team

You Need to Convey

- Trustworthiness
 - Confidence
 - Competence
 - Honesty
- Positivity
- Curiosity
- Passion

How to Develop These Traits

- Practice and gain proficiency in the technical requirements of a case – free up mental energy to focus on connecting with the interviewer
- Practice positive self-talk – the best way to demonstrate these traits is to truly believe you have them
- Practice quickly connecting with people about non-work subjects – building rapport before diving into the interview makes an enormous difference (Note: Not always possible)





What Is A Case Interview?

A case interview is a simplified, condensed version of a complete consulting project. The candidate is in the driver's seat and is expected to explore the data and provide solutions to an issue that a client paid the firm for.

Ideal Candidates
Demonstrate



From Bain's Website (but representative of all firms):

The case interview is an example of a real business problem based on your interviewer's past work experiences. The problems you will encounter are not designed to be brainteasers, or theoretical problems designed to stump you, but rather to reflect the challenges that our clients face. These real-life examples allow you to learn more about the type of work we do and the impact we have with our clients.

Bain looks for:

- The approach you take to solving a problem
- How analytical and creative your thinking is
- Your usage of data to quantify your recommendation(s)
- Your communication skills in conveying your ideas
- How you would suggest implementing those proposals"





Consulting Case Themes

The following case themes are the most popular topics tested and they are ranked in descending order of frequency. Please note that there are plenty more case topics than the 5 listed below.



Profitability: Analyze potential sources of profit declines and identify ways to improve profitability



Market Entry / Market Sizing: Analyze the client's opportunity to expand and quantify the viable market for any new products



Growth: Identify opportunities for the client to optimally grow revenues or increase market share



Acquisition / Sale: Determine whether the client should purchase another business or sell an existing part of the company

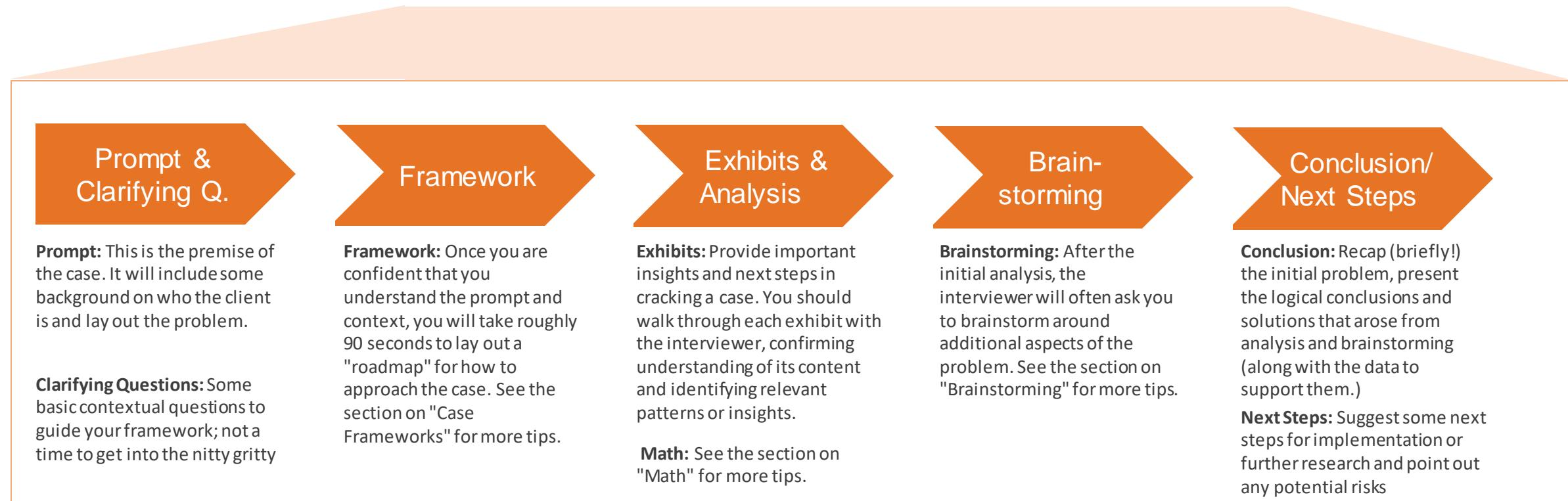


Industry Assessment: Assess the health and attractiveness of a particular industry to advise a client's decision





Case Interview Format





Fit / Behavioral Question Overview

Consulting firms are assessing your ability to successfully work with teams and judge how well you understand their firm and yourself

Tell Me
About
Yourself

- **Your pitch should include:** Where you have been / what you have done, who / where you are now, and what you are interested in going forward
- **All answers must include:** Relative skills & experiences, key transition points in your career, and a career objective
- **Strong answers have:** Powerful “hook” –your value proposition that highlights how you have the competencies they are recruiting for

Why
Firm X or
Consult-
ing

- **Firm & industry fit:** Interviewee should have a deep understanding of a firm’s culture, functional expertise, and working style
- **Industry interest:** Interviewee should highlight experiences they want to gain and skills they can bring
- **Strong answers have:** This question answered in opening pitch, structured reasons why, and answers tailored to your prior experiences and future aspirations

Tell Me
About A
Time
When...

- **Experience/ behavioral:** Interviewee should demonstrate leadership ability, “drive” –taking initiative, and professionalism
- **CAR: Context / challenge** you faced, the **action** that you demonstrated, and the **result** of your actions
- **Strong answers have:** Concise response, a learning element if the situation helped you grow, utilizes structure, and engages the interviewer with energy, emotion, and authenticity





The Prompt and Clarifying Questions

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

Brain-storming

Conclusion/
Next Steps

The Prompt

- All case prompts will introduce the company name, industry, and a brief description of what the client wants
- Some prompts tend to leave the primary objective to be vague
- Most prompts leave out the business context of the clients core products or operations in question

Clarifying Questions

- Clarifying questions should always be high level (ex. Context on products, core goal of the client, how client makes money)
- Don't ask for detailed insights that you can include in framework (ex. Details on profitability drivers, market trends, etc)
- Feel free to ask further clarifying questions as you are building framework





The Case Framework

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

Brain-storming

Conclusion/
Next Steps

By laying out a framework for analysis at the beginning of a case interview, you are not only keeping yourself organized, but you are providing a visual roadmap for the interviewer to see how you are thinking and where you are going.

Characteristics of Great Frameworks

- **MECE:** Mutually Exclusive, Collectively Exhaustive
- Detailed but not lost in the weeds
- Thorough but not wasteful
- Insightful but not presumptive

Incorrect Framework Myths

- There is one perfect framework for every case
- There is a finite number of possible frameworks that will provide answers to every case
- Frameworks are not that important to the overall interview





Framework Example

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

Brain-storming

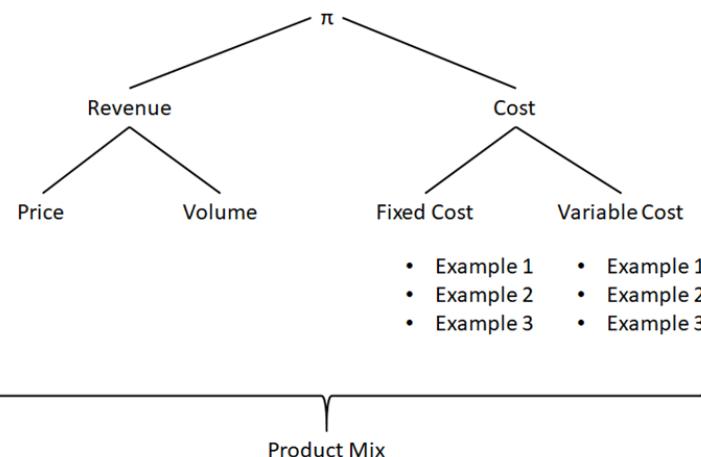
Conclusion/
Next Steps

Some frameworks are better than others to address a particular case. There are always multiple approaches that can yield the same answer.

A simple framework example:

Key Question in the Prompt

Profitability Tree



Market / External

- Competitors
- Economic Health
- Regulation / Government
- Industry Trends
- Geography / Climate

Customer / Company

- Internal Capabilities
 - Acquisitions
 - Manufacturing Capacity
 - Distribution Networks
- Brand Perception
- Exit Strategies
- Consumer Preferences

Notes +

Clarifying

Answers





Other Framework Examples

While being exposed to many frameworks can help build a strong repertoire of framework components, remember that no amount of specific framework memorization will cover every possible case a candidate could encounter.

Before & After

- Compare current with future
- Ideal for a go/no-go decision
- Can be used with profit tree (profits before and after)



	Before	After
Evaluation Criterion 1		
Evaluation Criterion 2		
Evaluation Criterion...		

M&A (similar to Before and After)

- Compare Company A, Company B, and Company A+B along various meaningful criteria



	Company A	Company B	Company A + B
Evaluation Criterion 1			
Evaluation Criterion 2			
Evaluation Criterion...			

Alternative | Evaluation Criteria Matrix

- Alternatives listed across the top
- Evaluation criteria listed along the left
- Use +, -, o, or check marks to go through the list



	Option 1	Option 2	Option 3	Option 4...
Evaluation Criterion 1	+	-	-	+
Evaluation Criterion 2	-...			
Evaluation Criteria...				





Guide to Exhibits & Analysis

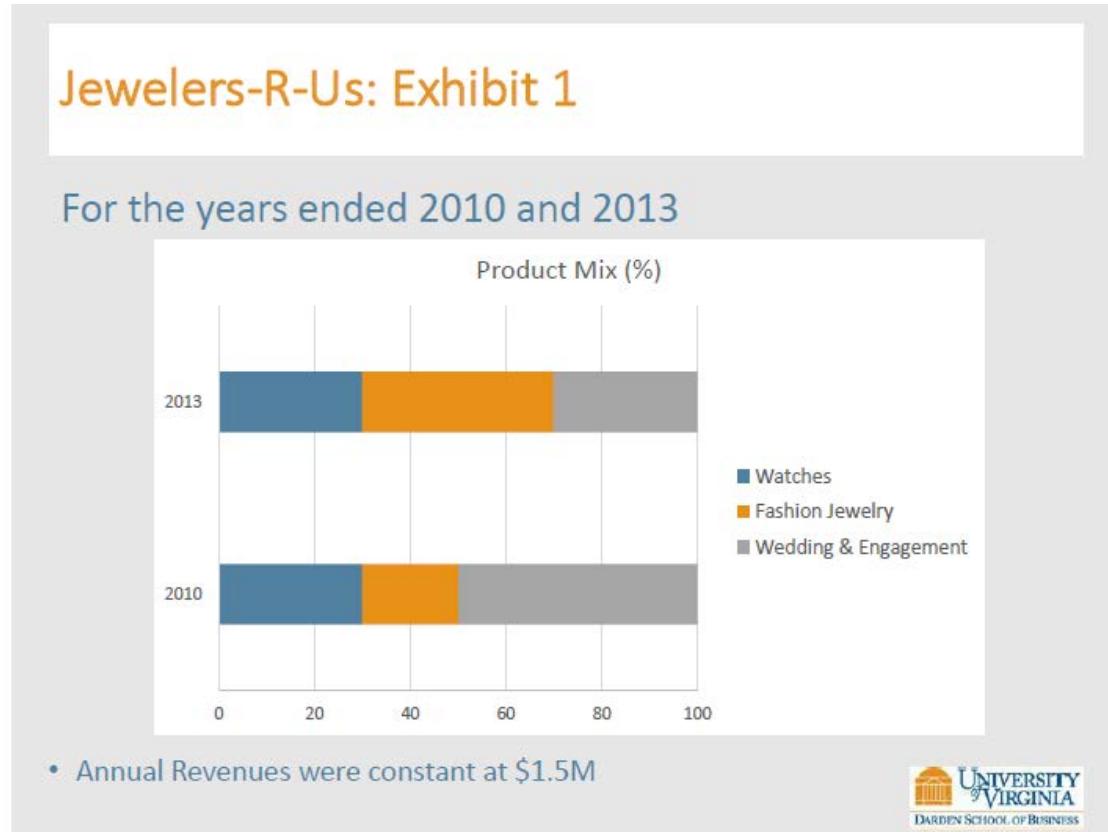
Prompt & Clarifying Q.

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Read The title of the exhibit to have a clear understanding of the information

Observe The legend and gauge the sizes of any bar graphs for insights

Pay Attention To the footnotes for vital information





Guide to Math Analysis

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

Brain-storming

Conclusion/
Next Steps

Although most case mathematics will involve simple arithmetic, it is still very easy to make mistakes. Follow the tips below to ensure that you are set up for success.

Tips for Success



Sanity Check

Make sure your numbers make sense in the context of the case

Mistakes are OK

You can recover from mistakes, just don't make the same mistake twice

Use Shortcuts

Round when needed and manage your zero's appropriately

Talk it Through

Explain each step that you are doing with your interviewer

So What

Tie the numbers back to the question and explain the implications

Practice

practice until you're comfortable doing math in front of an interviewer



Guide to Math Analysis



Prompt & Clarifying Q.

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Tricky Math Examples

Net Present Value

- A. Calculates the discounted return on investment over time
- B. Requires cash flows (revenues - costs over a time period), discount rate, timeframe, and an upfront cost
- C. Some cases will assume a calculation into perpetuity (timeframe = forever).
- D. **Perpetuity:** $(\text{Cash Flow per Period} / \text{Discount Rate}) - \text{Upfront Cost}$

Payback Period

- A. Calculates the amount of time required to pay back an upfront investment
- B. Requires cash flows per period and an upfront cost
- C. Payback period will be extremely long, extremely short, or you will be given some type of specific criterion the client uses (e.g. 5 years)
- D. **Payback Period** = $\text{Upfront Cost} / \text{Cash Flows per Period}$

Break-even Sales

- A. Calculates the number of units sold to pay back an upfront investment
- B. Requires per-unit selling price, per-unit costs, and upfront investment cost
- C. **Break-Even Sales** = $\text{Upfront Investment Cost} / (\text{Per-Unit Selling Price} - \text{Per-Unit Costs})$





Guide to Math Analysis (Things to Take Note)

Prompt & Clarifying Q.

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Example Scenario

How much money will the client save?

Current State	\$ Mater./Unit	# Labor / Unit	Volume	Total Cost
Product 1	15	10	1M	= \$25M
Product 2	5	20	2M	= \$50M
				= \$75M

10% Labor Reduction on a per unit basis

Future State	\$ Mater./Unit	# Labor / Unit	Volume	Total Cost
Product 1	15	9	1M	= \$24M
Product 2	5	18	2M	= \$46M
				= \$70M

Total Savings = \$5M

- A. **Structure** is crucial. The more you can structure information like an Excel Spreadsheet, the better
 - I. Helps you recover information
 - II. Your interviewer can follow along
 - III. It makes you look organized
- B. **Write** down prompts such as “How much money will the client save” and “10% labor reduction per unit” to keep the goal fresh in your mind
- C. **Circle** any important numbers (Total Savings = \$5M) that may be relevant to your final recommendation
- D. **Go Deeper** by speaking to the context of the number, ex: “I see the total savings is \$5M, which represents about 6% of our total costs. This seems like a reasonable deduction but we should figure out how this labor reduction is being generated and seek to understand any negative unanticipated consequences as a result of it.”





Tips For Brainstorming

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

Brain-storming

Conclusion/
Next Steps

The key to brainstorming is structure. The candidate should first devise two or more "buckets" or categories to organize his/her thoughts. These constraints make it easier to be creative and provide a more vivid mental model to pull from.

Example Brainstorming Frameworks:

Internal vs. External

- Internal represents any aspect internal to the client, (e.g. products, brand, financials, leadership, etc.)
- External represents factors external to the client, (e.g. market trends, geopolitical dynamic, competition, etc.)

Financial vs. Non-Financial

- Financial includes things like costs, hurdle rates, cash flow, etc.
- Non-financial would be everything else

Long-term vs. Short-term

- Useful for examining potential consequences of a decision

The Supply Chain

- Each step in the supply chain is a category: raw materials, manufacturing, warehouse, transport, retail, customer, etc.
- Useful for exploring causes or solutions to cost problems

Stakeholders

- Clients, employees, investors, suppliers, regulators, etc.
- How are they affected, or what are they looking for?

Customer Journey

- AIDA – Attention, Interest, Desire, Action
- Useful for increasing sales





Conclusion & Next Steps

Prompt & Clarifying Q.

Framework

Exhibits & Analysis

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Conclusion/
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There are three key elements that the interviewer should include while wrapping up the final portion of the case.

1. Recommendation

Say the action that the client should take and cite the key insights in your analysis that have led you to the conclusion

2. Risks & Concerns

Mention the factors in the case that the client should be aware of that may impact the client or the recommendation –(Concerns should not contradict your overall recommendation)

3. Next Steps

Highlight at least one action the client should do to either help mitigate any concerns or any actions needed to move forward with the recommendation

While you can take a minute before you gather your recommendation, it is crucial to keep this segment concise



Industry Overview

**Please note that these are commonly tested industries; This list is not exhaustive
of all the industries tested**

Industry Overview – Consumer / Retail

Key Industry Trends

- **Digital Marketing:** CPG (Consumer Packaged Goods) companies are pivoting to digital marketing solutions like Facebook and YouTube more than ever for smarter and more targeted advertising.
- **Big Data:** Consumer companies & retailers are ramping up the use of consumer shopping behavior data now more than ever to create curated/ personalized shopping experiences and targeted advertisements
- **Retail Omnichannel:** Large brick & Mortar retailers are pivoting to an “order online, pick-up in store” mix while also building out their online fulfillment capabilities to cater to the consumer. and keep up with Amazon). Store foot-prints are also getting smaller to reduce inventory
- **Private Label & Amazon Effect:** Private label consumer products are eroding market share of large name brand products. This is partially driven by “the Amazon effect” of quick and cheap replacement fulfillments. -Brand loyalty is getting harder and harder to win.
- **Direct to Consumer vs. In-store Experience:** Brand names are slowly shifting resources to sell directly to consumers as some retailers struggle. Retailers with large brick & mortar footprints are focusing on in-store experiences to attract customers

Important Terminology

- **SKU:** Stock Keeping Unit – Refers to a unique item sold in a store
- **In-stock:** Percent of items that are on the shelves and available for sale vs. what the total display can hold
- **CRM:** Customer Relationship Management: Strategy & tools designed to boost profitability and strengthen customer loyalty by using data – also the name for software that facilitates this
- **Loss Leader:** Merchandise sold at a loss to attract new customers or stimulate other profitable sales
- **Mark-up:** Percentage added to the cost of product to get selling price



Important Calculations

1. Inventory Turnover:

$$= (\text{Sales} / \text{Inventory})$$

2. Gross Margin:

$$= \frac{(\text{Revenues} - \text{COGS})}{\text{Revenues}}$$

3. Contribution Margin (CM):

$$= (\text{Sales} - \text{Variable Costs})$$

$$\text{CM Rate} = \frac{(\text{CM})}{(\text{Sales})}$$

Industry Overview – Energy

Key Industry Trends

- **Clean Renewable Energy:** Wind, solar, and biomass power are increasingly replacing the use of fossil fuels in developed and developing countries with some projections indicating 80% of the world's energy needs being met by renewable energy by 2050
- **Technology:** Advancements in drilling techniques like “fracking” and horizontal drilling have significantly boosted the output of US oil companies and substantially reduced the cost and risks associated with drilling for oil
- **Shale:** Newly found abundance of shale basins in the USA has helped to boost US oil production output and has almost eliminated US dependence on foreign oil
- **Natural Gas:** Given its cheap and abundant supply, natural gas has become the primary source of energy in the US, replacing crude oil and coal
- **(Important) Petroleum Products:** Gasoline, jet fuel, natural gas, fertilizer, plastics, detergent, propane, diesel, lubricant

Important Terminology

- **Upstream (E&P):** Exploration and Production – Process involving the finding, drilling, and producing of crude oil and natural gas or liquified natural gas (LNG)
- **Midstream:** Focuses on the processing, storage, marketing, and transportation of oil and natural gas. (Most pipe-line companies fall in this category)
- **Downstream:** Includes oil refineries, petrochemical plants, petroleum products distributors, retail outlets and natural gas distribution companies
- **OPEC:** Organization of Petroleum Exporting Countries – Cartel of 14 nations that coordinate petroleum policies. –Often influences output and thus oil prices

Important Calculations

1. Return on Investment (ROI)

$$= \frac{\text{Profits} - \text{Cost of Investment}}{\text{Cost of Investment}}$$

2. Breakeven Point

$$= \frac{\text{Fixed Costs}}{\text{Contribution Margin (CM)}}$$

Important Considerations:

- **Transportation / Distribution costs**
- **Storage Costs**
- **Production Costs: Labor + Materials**
- **Plant Development Costs**
- **Depreciation & Taxes**
- **Overhead**



Industry Overview – Transportation

Key Industry Trends

- **Airline Capacity Additions:** Airline ticket prices have been steadily on the decline driven by companies adding more routes to cities across the globe –led by low-cost carriers such as JetBlue, Southwest
- **Fuel Efficiency:** Airline companies have been investing heavily in upgrading their fleet to more fuel efficient aircrafts to reduce their biggest cost driver
- **EV (Electric Vehicles):** Auto manufacturers are all racing to create battery powered vehicles
- **Autonomous Vehicles:** Autonomous vehicles are expected to hit the road as early as 2019 and will cause major disruption to auto manufacturers, bus systems, taxis, insurance companies
- **Shortage of Truckers:** Transportation companies have been struggling to keep up with the booming demand for cargo shipments due to a massive shortage of truck drivers –thus causing significant increases in labor costs

Important Terminology

- **Load Factor:** Measures the capacity utilization of transportation services and is equal to the average actual utilization divided by the maximum capacity
- **PRASM: Passenger Revenue per Average Seat Mile** –Or RASM (revenue) is the revenue generated per available set miles in which ASM = number of seats available x number of miles flown.
- **Logistics:** The detailed coordination of complex operations involving many people, facilities, or supplies.
- **FOB: Free On Board** –Represents the point at which the sale of a freight cargo is considered complete. “FOB shipping” means ownership is transferred once the product is shipped of, “FOB shipping point” means ownership is transferred once the product is delivered
- **LTL & FTL:** LTL (Less than Load) – Small freight that doesn’t fill a truck which is generally more expensive to ship, (FTL) Full Truck Load) – Large shipments that fill a trailer and are thus cheaper to ship

Important Calculations

1. Potential Savings by Switching Equipment

= {New Profit – Old Profit} or

{ [(New Capacity x Price) – (New efficiency x cost)] – [(Old Capacity x Price) – (Old efficiency x cost)] }

Important Considerations:

- **Gasoline / Fuel Prices**
- **Carrying Capacity**
- **Range / Distance**
- **Destination Routes**
- **Maintenance Costs**
- **Depreciation**



Industry Overview – Manufacturing / Agriculture

Key Industry Trends

- **D2C: Direct to Consumer:** More manufacturers are leveraging their own sales platform to market, sell, and ship their products to the customer rather than use third party distributors or retailers to boost profitability
- **Data Driven Analytics:** Manufacturers are using predictive analytics and algorithms to improve product design, optimize production cycles, and improve demand forecasting
- **Trade-war & Tariffs:** In response to the US tariff on steel and more, Canada, the European Union, and China have all implemented retaliatory tariffs of close to 25% on agricultural and automobile goods produced in the US.
- **Sustainable Food Systems:** Vertical farming has been a growing trend in urban locations to minimize environmental foot-prints and bring produce to major cities

Important Terminology

- **(JIT) Just-in Time Inventory:** “Pull demand” inventory system in which assembly materials and support items are delivered as needed to minimize raw material inventory
- **Commodity:** An interchangeable non-differentiated product or material that is sold freely. (Most agricultural products are commodities)
- **Bottleneck:** The resource in a manufacturing process that is working at max capacity and thus limits the output of the entire production
- **Bushel:** A unit of dry measure (1 cubic foot) for grain, fruit, etc., equivalent to 8 gallons of liquid
- **Out-source:** Process of contracting an outside party to complete a production or service task for a business. –Typically done to save cost or due to a lack of expertise

Important Calculations

1. Potential Savings with New Equipment

$$= (\text{New Equip. Expenses} - \text{Old Equip. Expenses})$$

$$[(\text{Old Time} \times \text{Old Labor}) + (\text{Raw Material Cost} \times \text{Old Quantity}) + \text{Old Depreciation}]$$

$$- [(\text{New Time} \times \text{New Labor}) + (\text{Raw Material Cost} \times \text{New Quantity}) + \text{New Depreciation}]$$

Important Considerations:

- **Raw Material Costs**
- **Labor & Wages**
- **Capacity Constraints / Bottlenecks**
- **Commodity or Not?**
- **Overhead Costs**
- **Supplier & Buyer Relationships**
- **Depreciation**



Industry Overview – Financial Services

Key Industry Trends

- **AI, Block-Chain & Crypto Currencies:** Digital distributed ledgers offer a cheaper and more efficient way for firms to verify and facilitate transactions. Crypto currencies have proven themselves to be an alternative set of asset investments that rival equities, precious metals, and debt holdings
- **Digital-Only Banks & Payments:** The prevalence of more digital transactions have eroded the need for cash for most daily use, which has in turn lead to the proliferation of online banks that offer higher savings account interest rates and comparable services
- **Financial De-regulation:** Congress passed legislation easing some of the restrictions from Dodd- Frank that exempts smaller banks from certain capital requirements which frees up room for more loans
- **More Transparency in PE Funds:** With greater pressure to produce results that outperform their benchmarks, more PE investors have been demanding greater transparency within their funds and firms have been using transparency to attract investors

Important Terminology

- **AUM:** Assets Under Management: Market value of all the financial assets that a firm manages on behalf of all of their clients and themselves. –Includes capital raised by investors and leaders of a firm
- **Private Equity:** Composed of investors and funds that invest directly into private companies or convert public companies to private companies to improve the target company's operations and financials with the goal of extracting a financial return from the company and reselling it another firm or the public at a profit
- **M&A:** Mergers & Acquisition: Mergers are when two companies comes together to make a new entity (Dow Chemical & Dupont) = DowDuPont, while an acquisition is where the smaller company is consumed by the larger company (Amazon + Wholefoods) = Amazon



Important Calculations

1. NPV (Net Present Value)

$$= (CF) \times \frac{1}{(1+i)^n} \quad \text{Where } n = \# \text{ of periods}$$

2. Pay Back Period

$$= \frac{\text{(Fixed Costs)}}{\text{Contribution Margin (CM)}}$$

Important Considerations:

- Current Portfolio
- Exit Strategy & Time Horizon
- Acquisition Price
- Employee & Customer Relationships
- Market Trends
- Tax & Regulatory Implications
- Client Risk Profile

Industry Overview – Information Technology

Key Industry Trends

- **Artificial Intelligence (AI)/ Machine Learning:** Artificial intelligence is the ability for a computer program to think and learn. The emergence of AI has enabled the rise of self-driving cars, smart homes, advanced search algorithms, and smart digital assistants
- **Cloud Computing:** Is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer. More companies are moving to this platform for security, convenience, and cost savings
- **Internet of Things (IOT):** Smart devices that are all connected and communicate with each other via the internet are rising in demand due to value of strategic data that they provide
- **Blockchain:** a digital ledger in which transactions made and recorded chronologically and publicly. – Important for security and transfer verification purposes. Ex. include Bitcoin, and other cryptocurrencies
- **GDPR:** General Data Protection Regulation: Data protection regulation protecting privacy for all individuals in the European Union.

Important Terminology

- **IP (Intellectual Property):** A category of property that includes intangible creations protected by trademarks and copyrights (e.g. software, code, algorithms, etc.)
- **Unicorn:** a start-up company valued at more than a billion dollars, typically in the software or technology sector
- **Freemium:** A pricing model used by many digital services, a “freemium” model is one where the majority of users are able to engage with a product or service entirely for free (perhaps in exchange for data collection or being served advertisements)
- **SaaS:** “Software as a service” - a software distribution model in which a third-party provider hosts applications and makes them available to customers over the Internet –Like Salesforce or Workday

Important Calculations

1. Addressable Market size:

Top-Down: Total Population >> Number of users >> Market share >> # of Units per User x Price per Unit

Bottom-Up: Current Customer Population >> Potential Customer Base (Estimated using consensus data or industry info) >> Future user base x units per user x price

2. Customer Acquisition Cost:

Marketing Expenses

Newly Acquired Customers (Yearly)



Industry Overview – Media & Entertainment

Key Industry Trends

- **Cord Cutting / Over the Top Streaming:** The rise of Hulu, Netflix, YouTube, & Amazon Prime video has left many to abandon traditional cable and opt for online streaming services to get the content they want
- **Content is King:** Media giants have been spending heavily to curate high quality content to hook subscribers to their service and maintain and grow their subscriber base
- **Ad-model Shift:** Cable advertisement has been trending downward while digital online advertisements have been trending up. As online viewers opt for ad-blockers, AI and big data are helping marketing agencies personalize advertisements and increase user engagement
- **Augmented Reality (AR)/ Virtual Reality (VR):** While still in their early stages, AR and VR capabilities have been gaining traction in the industry as a way to enhance storytelling and improve sporting coverage
- **Music Streaming:** The rise of Spotify, Apple Music, & YouTube Music has almost eliminated the physical disc music market as most artist now prioritize online platforms to release albums and new songs
- **Gaming & E-Sports:** The video gaming industry has been one of the fastest growing segments in entertainment led by mobile gaming and game streaming experiences via Twitch and E-sports. Many video game creators are focused on a “games as a service model” as they monetize video games overtime by selling in-game customizable perks

Important Terminology

- **Digital vs. Linear:** Linear is traditional broadcast or cable television. Digital is online (streaming, etc.)
- **Ratings:** A measure of viewers of a particular program or time segment in television. Nielsen is the largest provider of ratings data in the US, but has been slow to provide digital ratings
- **Box-Office:** The total revenue generated by movies shown at theaters

Important Calculations

1. Profitability

(Revenues – Costs)

$$\text{Profit} = (\text{Price} \times \text{Quantity}) - (\text{Quantity} \times \text{Var. Cost}) - (\text{Fixed Costs})$$

Important Considerations:

- Revenue Factors
 - Advertising Rev.
 - Ticket sales (Price x Quantity)
 - Merchandising
 - Tours / licensing / Endorsements
- Cost Factors
 - Artist fees
 - Commission
 - Promotion advertising
 - Venues
 - Content creation costs



Industry Overview – Healthcare & Life Sciences

Key Industry Trends

- **Wearable Medical Devices:** Activity trackers help patients stay more active and healthier on their own while also monitoring health metrics reducing the need to visit doctors frequently
- **Smart Technology & Data:** Data on a patient's background and conditions allow more personalization options, targeted treatments, and faster recommendations at hospitals
- **Gene Therapy:** The transplantation of normal genes into cells in place of missing or defective ones in order to correct genetic disorders. –Growing trend using CRISPR to treat previously incurable diseases
- **Price Transparency:** As drug companies receive criticism on the rising cost of their drugs, more states are considering independent efforts to improve transparency in drug pricing and cost controls
- **Government:** With the repeal of the Affordable Care Act (ACA), legislation has stagnated on fixing the rising cost of healthcare and Medicaid in the US, thus leaving a continued rise in insurance premiums
- **Bundled payment, episode-of-care payment, etc.:** Generally describes paying for the whole treatment at once, rather than by individual tests or visits – an attempt to incentivize improved outcomes

Important Terminology

- **Orphan Drug:** A pharmaceutical drug that remains commercially undeveloped due limited potential for profitability as a result of a small curable population size
- **FDA:** “Food & Drug Administration” Federal organization tasked with protecting and promoting the safety of food and pharmaceuticals in the US. FDA approval is needed for almost all drugs sold in the US
- **Generic Drugs:** A prescription drug that has the same active-ingredient formula as a brand-name drug but sold at a cheaper cost. –Typically occurs when name branded drugs lose patents
- **Biotech vs. Pharmaceutical:** Biotech firms use live organisms like bacteria and enzymes to manufacture their medicines while pharmaceutical companies primarily use chemicals synthesis
- **Auto-immune Diseases:** A disease in which the body's immune system attacks healthy cells



Important Calculations

1. Market sizing:

Top-Down: Total Population >>> Number with Illness >>> Number Diagnosed >>> Market share of Drug >>> (Dosage per Time Frame) x Price per Dosage = Market Size per Time Frame

Important Considerations:

- **Regulations**
 - FDA Approvals
 - Patent Rights
 - Foreign Government Laws
- **Competition / Cannibalization**
- **Drug Effectiveness**
 - Cure vs. Treatment
 - Time to Market
 - Side Effects
- **Manufacturing Capabilities**
- **Pricing, Costs (Fixed / Var.), Dosage**

Industry Overview – Telecommunications

Key Industry Trends

- **5G Network Service:** Next generation of mobile internet connectivity with faster speeds, more reliable connections, and 100x more bandwidth capacity than 4G.
 - Network operates mainly on the cloud
 - Allows for “network slicing.” Creates separate wireless networks on the cloud for users to have their own personalized network
 - Roll-out may be 2020 in North America due to high infrastructure costs associated with development
- **Network Consolidation:** The third and fourth largest cell phone carriers T-Mobile and Sprint are in the process of merging, a move that will consolidate the telecom market to 3 major players
- **Content Integration:** High profile acquisition like AT&T of Time Warner and Verizon of Yahoo illustrate a push to either get into the content creation game or to build out their advertising network

Important Terminology

- **Carrier:** A company that is authorized by regulatory agencies to operate a telecommunications service system: AT&T, Verizon, T-Mobile
- **OEM:** Original Equipment Manufacturer – A company whose goods are used as components in the product of another company that sells the finished goods to users
- **LAN:** Local Area Network: Locally owned and administered data network that runs primarily through cables –ex. Ethernet connection
- **Fiber Optic:** Transmission connectivity via glass strands which are 100x more faster than traditional copper wires for more efficient cell phone and internet connections

Important Calculations

1. Return on Investment (ROI):

$\frac{\text{Future Profits} - \text{Cost of Investment}}{\text{Cost of Investment}}$

2. Customer Acquisition Cost:

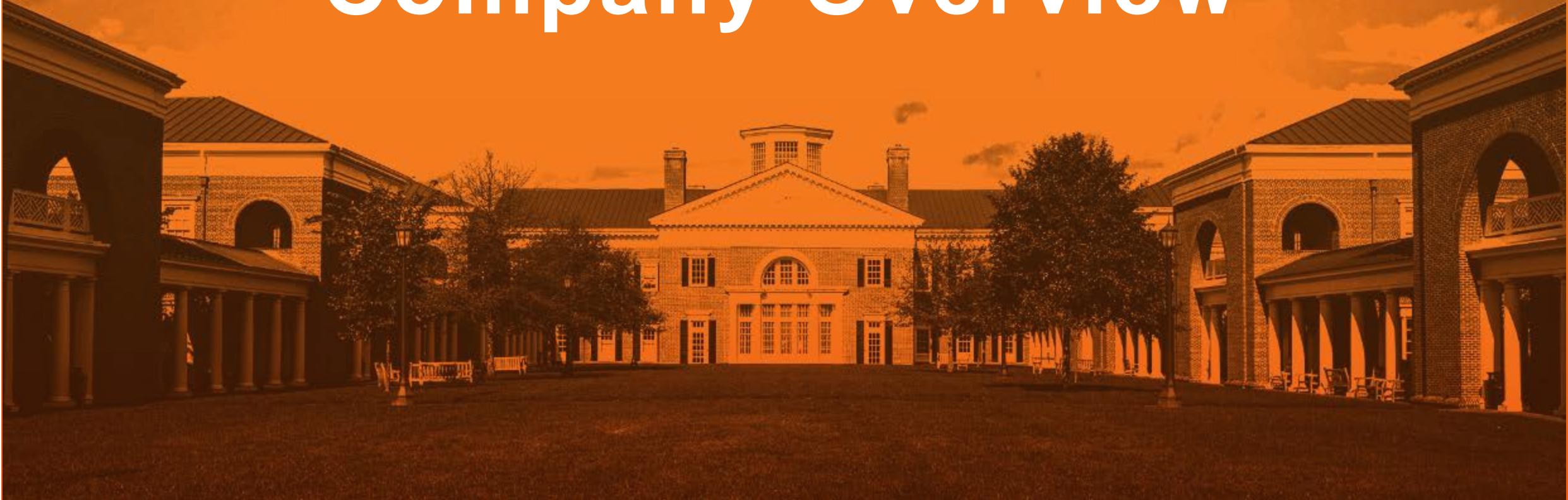
$\frac{\text{Marketing Expenses}}{\text{Newly Acquired Customers (Yearly)}}$

Important Considerations:

- Regional Competition
- Competitors
 - New Entrants
 - Barriers to Entry
 - Substitutability
- Contract lengths & stipulations
- Infrastructure



Company Overview





Darden Recruiting Firm Overview

The are many different types of consulting companies that recruit at Darden each year

Although there are many similarities between consulting firms, each firm has its own distinct culture, personality, and approaches to solving problems. Make sure you take the time to know as many firms as possible to understand which firm has the right fit for you

Big 3 MBB

McKinsey, BCG, & Bain: The largest and most well-known consulting firms in the industry. Projects / cases typically encompass all ranges of business functions at the executive level.

Large Management Consulting Firms

Deloitte, Ernst & Young (EY), PWC, Accenture, AT Kearney: Traditional accounting firms (except AT Kearney) with a large number of offices across the country. These firms have growing consulting practices across many functions, including strategy, technology, M&A, and others.

Specialized Consulting Firms

Parthenon EY, IBM Consulting, ZS Associates: Large to medium sized consulting firms that have a wide range of services but primarily specialize in a specific area, e.g. education, tech, or healthcare

Boutique Consulting Firms

Prophet, inCode, Triangle Insights, Monticello, Everest Group: Small consulting firms that specialize in specific functional areas or operate in a local geographic region

In-House / Internal Consulting

Fidelity Business Consulting, Liberty Mutual, Samsung: Large industry firms with a consulting arm to either support their own business or their own clients



Company Overview – Accenture Strategy

What Accenture Looks 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
- Summer Internships are ONLY IN THE CHICAGO AND NEW YORK OFFICES, office preferences are selected upon full-time offer

Interview Process

- **Round 1: On Grounds –Two Interviews**
 - Two interviews conducted on grounds with a manager in a typical case format
 - Accenture's interviews tend to be less quantitative
- **Round 2: On-Grounds**
 - Conducted by at least one Managing Director
 - The focus of the case interview is to assess how the candidate communicates his/her approach and thinking –Style, structure, and communication are key

Career Path

- Managing Director
- Senior Manager
- Manager
- Consultant (Post MBA)
- Analyst

General Facts

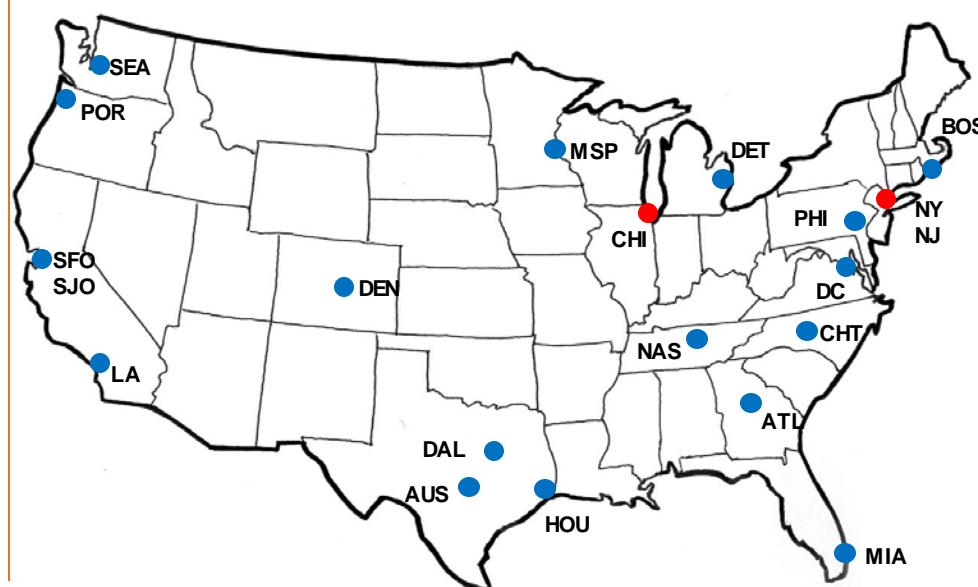
International Recruiting: No

Darden Representation: Alumni: 74, 2018 Interns: 7

Networking Importance: Medium

Organization: Key practice areas include:

- Business Strategy
- Information Technology & Digital Strategy
- Operations & Function Strategy
- Retail & Consumer Products
- Financial Services
- Utilities
- CMT (Communications, Media, & Technology)



*Not all Accenture locations are mapped out above



Company Overview – AT Kearney

ATKearney

What ATK Looks For

- "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"
- National staffing model makes base office location less important
- ATK looks for candidates who are willing to work in its collaborative engagement model
- ATK does not recruit second year MBA students and their entire class comes strictly out of their intern pool

Interview Process

- **Round 1: On Grounds (with Principal or Partner)**
 - two interviews in 1st round –1 behavioral and 1 case (30 mins each)
 - First round case tests quant skills and ability to structure (focused on ops)
- **Round 2: In Office (Not necessarily recruiting office)**
 - Written Case with presentation to panel of Principals
 - 30 minutes to read 15 slides and build a deck with your insights
 - 2 Behavioral fit interviews with Partners

Career Path

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

General Facts

International Recruiting: Yes

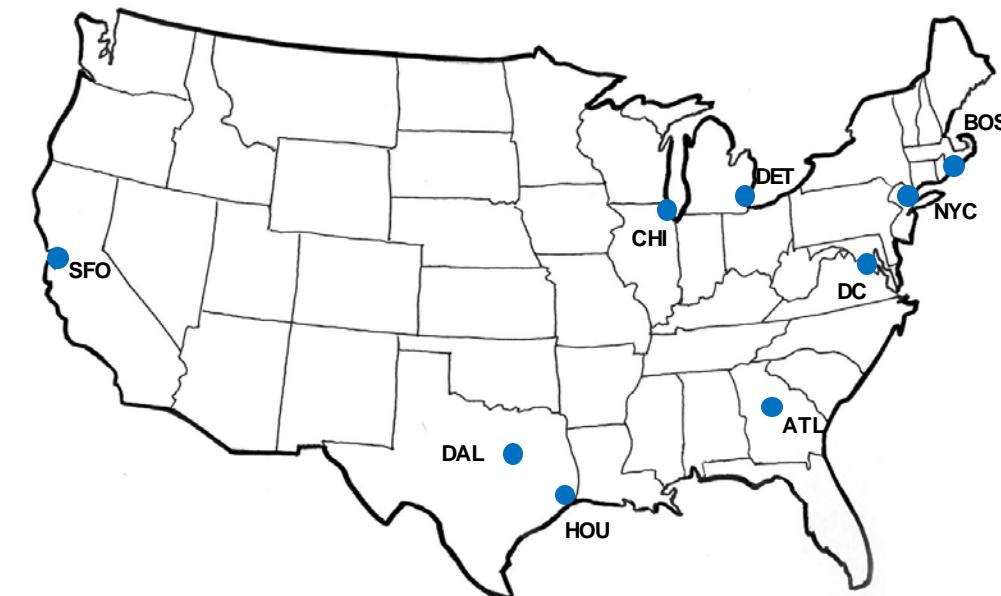
Darden Representation: 22 Alumni, 2018 Interns: 0

Networking importance: High

Offices: 60 offices & practices across 40 countries

Organization: Key practice areas include:

- Procurement and Analytics
- Marketing and Sales
- Organization and Transformation
- Digital Transformation



Company Overview – Bain & Company

What Bain Looks For

- Passionate about always doing the right thing for our clients, our people and our communities, even if it isn't easy..”
- Bain Operates a “Home Model” in which Consultants are staffed on projects with people from the same office
- 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 –then give context

Interview Process

- **Round 1: On Grounds**
 - First round is at Darden (two cases, with behavioral questions at the start)
- **Round 2: In Office**
 - 1 typical case, 1 written case, 1 behavioral interview
 - 2 typical cases, 1 written case

Career Path

- Partner
- Principal
- Manager
- Case Team Leader
- Consultant (Post MBA)
- Associate Consultant (Undergrad)

General Facts

International Recruiting: Yes

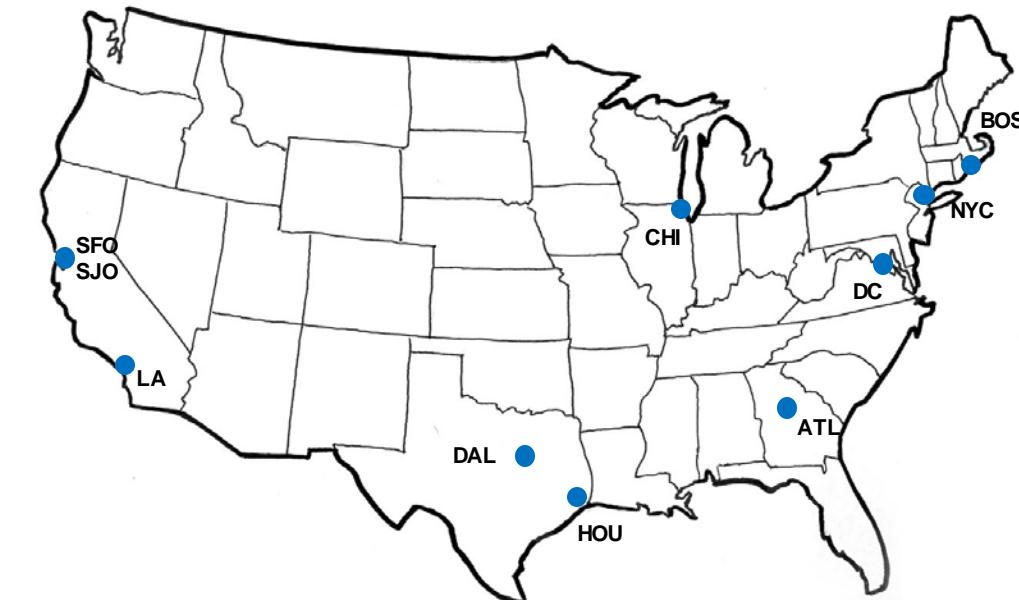
Darden Representation: 51 Alumni, 2018 Interns: 8

Networking Importance: High

Offices: 56 offices & practices across 36 countries

Organization: Key practice areas include:

- Strategy
- Private Equity
- Performance Improvement
- Organization
- M & A



Company Overview – The Boston Consulting Group



What BCG Looks 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

Interview Process

- **Round 1: On Grounds**
 - Two 45 minute interviews with behavioral & Case
 - Interviewee is expected to drive the case
- **Round 2: In Office (note that some offices do not have written cases)**
 - Two or three interviews with partners (more conversational)
 - Written Case: 30 mins to read 15-20 page slide deck and prepare rec. in 3-4 slides

Career Path

- | | |
|-------------------------|-----------|
| • Partner | 7+ Years |
| • Principal | 5-8 Years |
| • Project Leader | 3-5 Years |
| • Consultant (Post MBA) | 2-3 Years |
| • Associate (Undergrad) | |

General Facts

International Recruiting: Yes

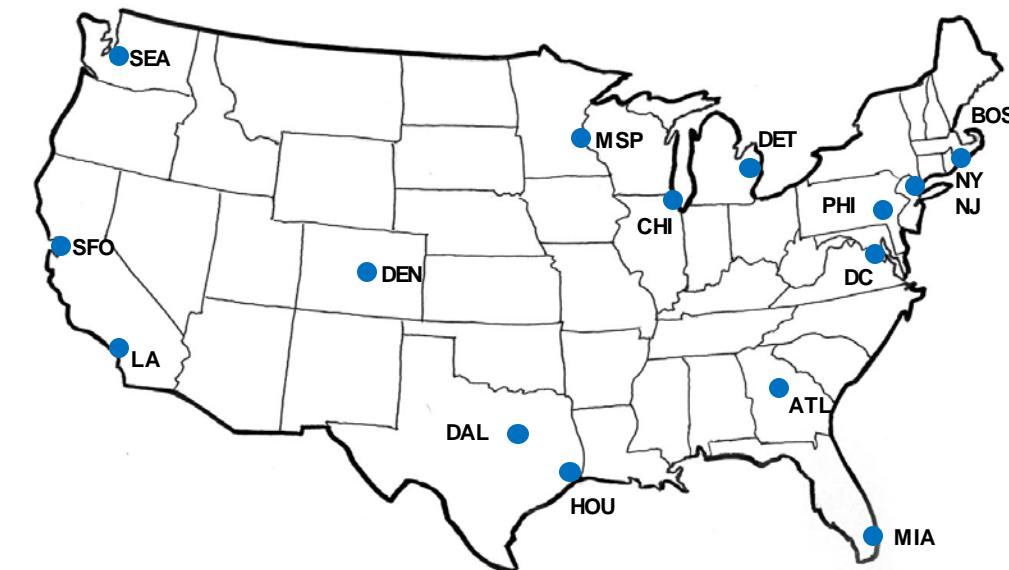
Darden Representation: 85 Alumni, 2018 Interns: 15

Networking Importance: High

Offices: 90 offices & practices across 50 countries

Organization: Key practice areas include:

- Consumer
- Technology, Media, and Telecommunications
- Energy
- Healthcare
- Social Impact/Education
- Industrial Goods



Company Overview – Deloitte Consulting

Deloitte.

What Deloitte Looks 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
- 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

Interview Process

- **Round 1 / 2 : On Grounds –First and second rounds are back-to-back days at Darden**
 - Behavioral interview + a 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
- **Round 2: On-Grounds**
 - Behavioral interview plus two individual case interviews
 - A ~5 person group case in which you will play a specific functional role
 - Show that you can own a work stream and work as a team

Career Path

- Director/ Principal
- Senior Manager
- Manager
- Sr. Consultant (Post MBA)
- Consultant
- Business Analyst

General Facts

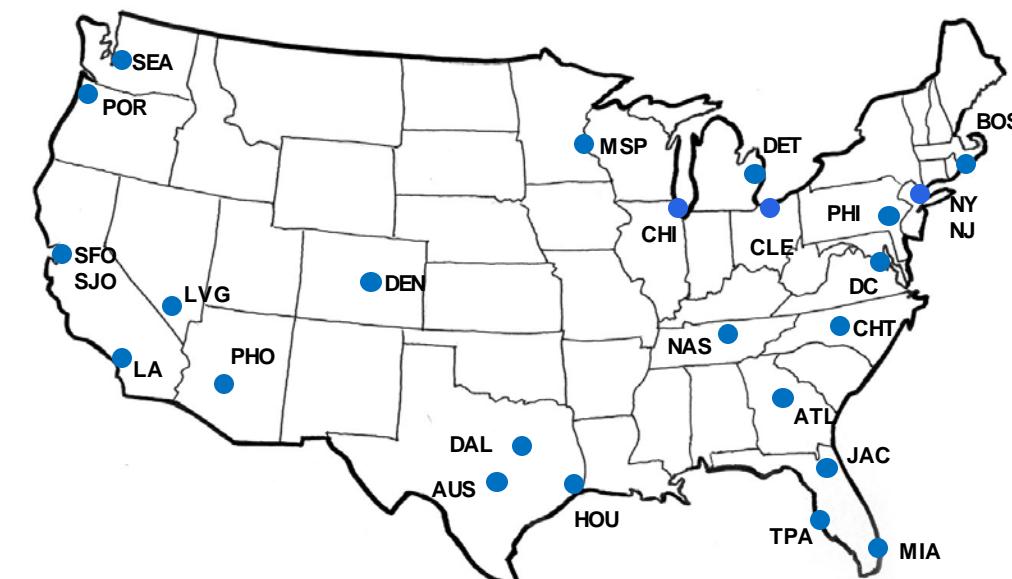
International Recruiting: Yes

Darden Representation: Alumni: 79, 2018 Interns: 8

Networking Importance: High

Organization: Key practice areas include:

- Business Model Transformation
- Finance
- M&A
- Monitor Deloitte (Strategy)
- Service Ops
- Social Impact
- Supply Chain and Manufacturing Operations



*Not all Deloitte locations are mapped out above



Company Overview – McKinsey & Co.

McKinsey&Company

What McKinsey Looks 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. These are: *personal impact, entrepreneurial drive, problem-solving skills, achievement and leadership abilities*
- McKinsey recruits MBA's into three different practices: strategy, operations, and BTO (Business Technology Office)

Interview Process

- **Round 1: On Grounds –Two Interviews**
 - Two interviews, each with a case and experience question by EM's
 - Cases are less driven by the interviewee and more driven by the interviewer
 - Recommendations need to take into account takeaways from each prompt/phase of the interview
- **Round 2: On-Grounds**
 - Generally 3-4 interviews, each with 1 case and 1 experience question
 - Second rounds are normally conducted by Associate Principals & Partners

Career Path

- Partner / (Sr.) Partner
- Associate Principal
- Engagement Manager (EM)
- Associate (Post MBA)
- Business Analyst

General Facts

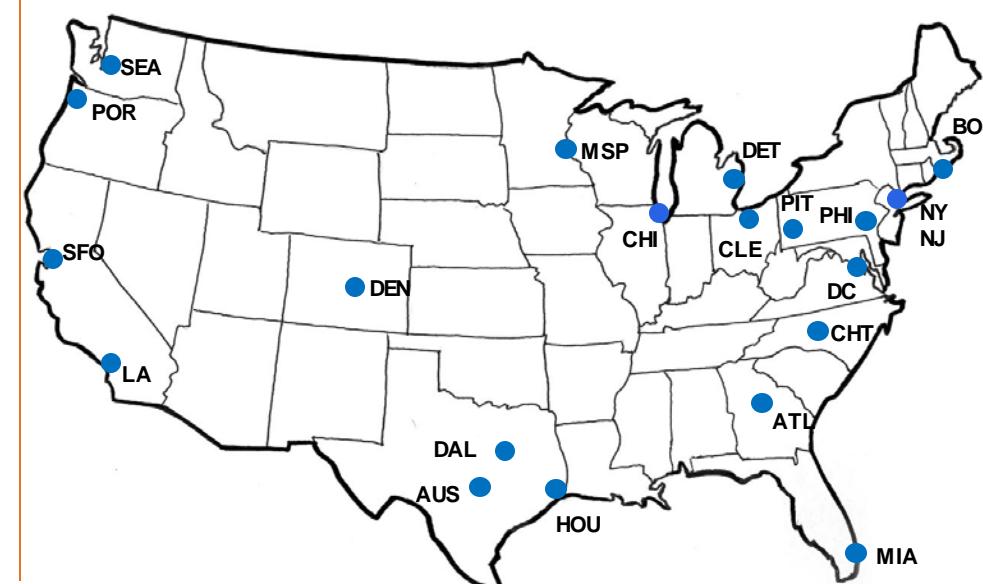
International Recruiting: Yes

Darden Representation: Alumni: 81, 2018 Interns: 9

Networking Importance: Low / Medium

Organization: Key practice areas include:

- Generalist
- Operations
- Business technology
- Sales and Marketing
- Corporate Finance



*Not all McKinsey locations are mapped out above



Company Overview – The Parthenon Group

What Parthenon Looks for

- Parthenon was acquired by EY in September of 2014, but is maintaining a separate brand and operations
- Parthenon operates a “two-case model” and typically emphasizes light-travel
- Parthenon recruits at Darden for its Consultant and Summer Consultant roles.
- Parthenon describes its consultants with the phrase “Smart. Nice. Driven.”

Interview Process

- **Round 1: On Grounds –Two Interviews**
 - Each interview begins with a behavioral question
 - One interview will be a typical case, another will be a market sizing exercise
 - (Ex. Determine how many sports cars are sold in the US?)
- **Round 2: In Office (Only Boston, NYC, & Chicago Office)** – 2 cases + 1 paper case
 - 15 Minute chat with a Managing Director (Partner)
 - 30 Minutes to review a paper case, then 45 minutes to discuss it with Director

Career Path

- Managing Director
- Vice President
- Sr. Consultant
- Consultant (Post MBA)
- Sr. Associate
- Associate (Undergrad)

General Facts

International Recruiting: Yes

Darden Representation: 2018 Interns: 3

Organization: Key practice areas include:

- Private Equity / Market Diligence
- Education
- Transaction Advisory M&A
- Life Sciences / Healthcare
- Consumer & Retail



Company Overview – PWC / Strategy&

What PWC Looks for

- Fit, and the typical consulting analytical toolkit, as well as relevant background experience. PwC is functionally-based
- 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

Interview Process

- **Round 1: On Grounds**
 - Two 45 minute interviews with behavioral & Case
 - Interviewee is expected to drive the case
- **Round 2: In Office (note that some offices do not have written cases)**
 - Two or three interviews with Partners (more conversational)
 - Written Case: 30 mins to read 15-20 page slide deck and prepare rec. in 3-4 slides

Career Path

- Partner
- Director
- Manager
- Sr. Associate (Post-MBA)
- Experienced Associate
- Associate

General Facts

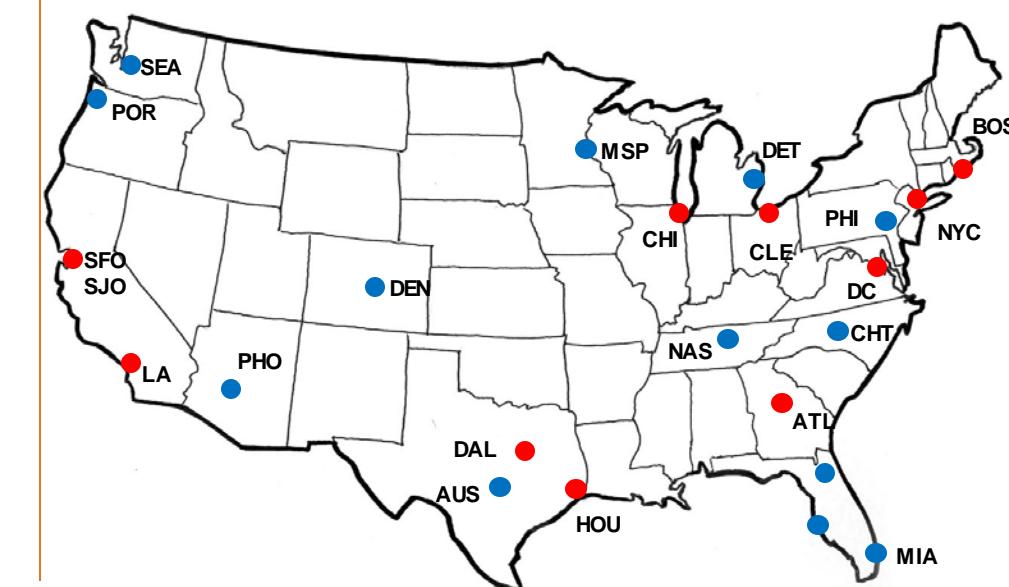
International Recruiting: Yes

Darden Representation: 64 Alumni, 2018 Interns: 2

Networking Importance: Medium

Organization: Key practice areas include:

- CIPS (Consumer Industrial Products & Services)
- TICE (Technology, Information, Com. Entertainment Media)
- HIA (Health Industries)
- Financial Services
- Public Sector
- People & Organization (Human Capital)



*PWC and Strategy& locations denoted in red

*Not all PWC locations are mapped out

Company Overview – ZS Associates

Overview & What They Look for

- Mid-sized management consulting firm focused on sales & marketing, primarily in healthcare
- 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, you are often given the responsibility of managing the project team and the project's day-to-day operations
- The firm values candidates with strong quantitative abilities and sales and marketing knowledge Parthenon operates a “two-case model” and typically emphasizes light-travel
- A thorough understanding of the pharmaceutical and medical devices industries is valued, but not required

Interview Process

- **Round 1: On Grounds –Two Interviews**
 - Interviews are mostly behavioral, with one case
- **Round 2: On-Grounds**
 - 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

Career Path

- Principal
- Associate Principal
- Manager
- Consultant (Post MBA)
- Associate Consultant <<< Analyst

General Facts

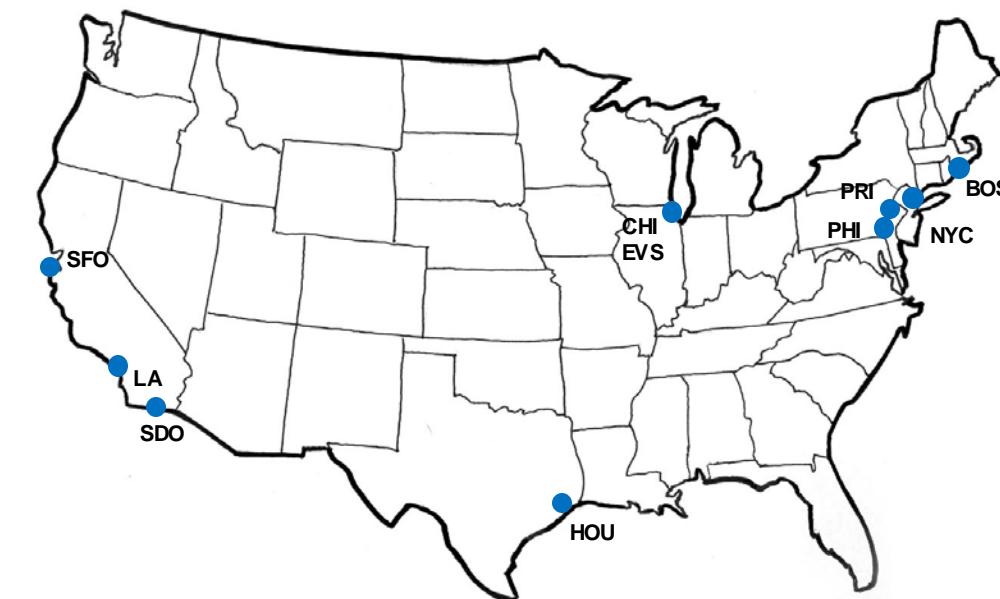
International Recruiting: Yes

Darden Representation: Alumni: 19, 2018 Interns: 2

Networking Importance: Medium

Organization: Key practice areas include:

- Healthcare (80% of business)
- Travel & Transportation
- Technology



Darden Casebook

2018-2019



UNIVERSITY
of
VIRGINIA

DARDEN SCHOOL
of BUSINESS

CHARLOTTESVILLE, VA

WASHINGTON, DC

SAN FRANCISCO, CA

SHANGHAI, CHINA



Darden Casebook Guide

To get the most authentic casing experience, you should aim to do at least one behavioral interview question at the start of each case and have your interviewer take note of your timing



Indicates the overall difficulty of the case with a combination of mathematical technicality and creative thinking ability. It is advised that you start with single star cases and work your way up to three star cases



Indicates the degree of math difficulty in the case. Harder cases typically have multiple stages of calculations with multiple opportunities for mistakes



Indicates how creatively intensive the case will be. The more qualitative, the more thorough your framework should be. These cases will place more emphasis on the brainstorming elements

Grading Rubric

Case Execution

High scorers should be well structured, demonstrate coachability, and make insightful connections

Communication

High scorers should demonstrate confidence, speak clearly, and have a tidy case work

Behavioral

High scorers should give clear and concise answers that are relevant





Casebook Suggested Practice Order

Case Title

- 1 **National Express Trucking**
- 2 **Styrofoam Situation**
- 3 North-South Pharma
- 4 Fire Proof Inc.
- 5 Quality Bottling Co.
- 6 **Canyon Capital**
- 7 Transportation Tech Co.
- 8 Lonely Gas Station
- 9 Copier Co.
- 10 Maxicure
- 11 **To Automate or Not**
- 12 **Rubber Bumper Laboratories**

• Starter cases

• Mid-point challenge

Beginner Cases

Intermediate Cases

Expert Cases



Darden Case Book 2018-2019 Index



Case Title	Firm	Industry	Round	Difficulty Quant / Qual / OVR*	Page
National Express Trucking	(N)* Bain & Co.	Transportation	1	1 2 1	48
Styrofoam Situation	(N) BCG	Financial / PE	2	1 2 1	58
North-South Pharma	(N) AT Kearney	Healthcare	1	2 2 2	68
Fire Proof Inc.	(N) Parthenon EY	Manufacturing	1	2 2 2	83
Quality Bottling Co.	(N) Parthenon EY	Manufacturing	1	2 3 2	93
Canyon Capital	(N) Bain & Co.	Financial / PE	2	3 2 3	105
Transportation Tech Co.	(R)* Parthenon EY	Transportation	1	2 2 2	114
Lonely Gas Station	(R) BCG	Financial	2	3 1 2	126
Copier Co.	(R) BCG	Consumer	1	3 1 2	136
Maxicure	(R) McKinsey	Healthcare	1	3 2 2	147
To Automate or Not	(R) BCG	Retail	2	2 3 3	156
Rubber Bumper Laboratories	(R) McKinsey	Manufacturing	1	3 3 3	167

*(OVR) Denotes overall case difficulty

(N) Denotes new cases to the Darden case book (R) denotes refurbished cases



National Logistics Trucking

Bain | Round 1 | Transportation

NATIONAL LOGISTICS

Bain | Round 1 | Transportation

Prompt:

Your client is National Logistics; a large transportation and logistics company that delivers freight to all areas of North America. Over the last five years, the company has experienced rising costs due to increases in wages resulting from a shortage of truckers. The client is now looking to reduce operational costs in the business. How would you advise the client?

Clarifying Information:

Note: Provide this only if corresponding questions are asked.

What is the client's primary goal? National express is looking to boost profitability by any means

Are other competitors facing the same issue? Yes, the entire transportation industry is feeling the wage pressure

Does the client have a profitability target? No, the client just wants to improve profitability from their current state

Are there other costs that have been influencing profitability? Yes, steadily rising fuel prices have also been hampering the company's profits

Is the company running at full capacity? Yes, the only thing limiting the company's revenue growth is finding drivers to drive their trucks

Has revenue also been in decline? No, revenue has been rising steadily over the last 5 years but is only capped by lack of drivers to fulfill deliveries



BEHAVIORAL
INTERVIEW
QUESTION:

1. What do you consider to be your greatest accomplishment so far and why?

2. Tell me about a time when you had to work with a difficult client or team member. How did you handle the situation?

01 | CASE: NATIONAL LOGISTICS

Framework Guidance:

Note: There are many possible alternatives to this framework. These are a few considerations that the interviewee should include in their framework

Profitability

Revenue:

- Prices: Can we raise them?
- Delivery Mix: Prioritize more expensive freight?
- Use double trailers per delivery instead of single trailers

Costs:

- Fuel: What are fuel prices? Can we hedge?
- Depreciation: What are the depreciation life-span on trucks?
- Overhead: Can we reduce admin staff?
- Outsource: Contract labor
- Load per Truck: How full are the loads per delivery?

Investments

- Buy new fuel efficient trucks
- Add energy saving technology e.g. spoilers, speed limiters, drag resistant wheels, etc.
- Purchase a low cost-leader transportation company

Innovate

- Develop drone delivery capabilities
- Explore autonomous trucks

Other

- Explore other high margin markets e.g. airfreight, shipping, railways, etc.

How to Move Forward:

The candidate should mention “more fuel efficient trucks” (or something similar) in his/her framework. If they don’t, press them until they mention it. Once included in the framework, mention that: the client was interested in exploring that option. Move on to question 1.



Question 1:

The client is interested in purchasing more fuel efficient hybrid truck fleets that use both batteries and diesel fuel. What are some of the cost considerations the client should be aware of in making this decision?

Answer:

The candidate can list any number of factors to consider, but it is crucial for the candidate to list these five cost considerations below. Press the candidate if he / she is missing any of the following five factors.

1. Price/cost of truck
2. Maintenance
3. Insurance
4. (Fuel usage) miles per gallon (MPG)
5. Depreciation

Bonus Question:

What costs do you believe would increase if National Express were to use hybrid trucks?

Guidance: This question tests a candidate's business judgement. The price of the truck, maintenance, and insurance are good answers because the hybrid models have more technology and are more complex than a standard truck. **Hand the candidate Exhibit 1.**



EXHIBIT 1: COST OF OPERATING EACH SEMI

Financial Metrics	Standard Truck	Hybrid Truck
Purchase Price	\$100,000	\$150,000
Maintenance / Yr.	\$5,000	\$8,000
Insurance / Yr.	\$2,000	\$3,000
Avg. Miles Driven / Yr.	60,000	60,000
MPG	10	20
Vehicle Lifespan	10 Years	10 Years

*National Express pays an average \$3.00 per gallon for fuel



Question 2:

We ran two cost scenarios for the client to compare the cost of operating a hybrid truck vs. a standard diesel truck. What are the potential cost savings (if any) from switching to a hybrid truck?

Candidate should ask about the depreciation schedule: Answer –National express uses straight-line depreciation for all of their trucks. All trucks will have a \$0 salvage value at the end of their lifespan.

Answer:

Standard Semi:

Maintenance + Insurance = \$7,000; Depreciation = \$100k / 10 years = \$10,000; Fuel = 60,000 Miles / 10 MPG = 6,000 x \$3.00 per gallon
= \$7,000 + \$10,000 + \$18,000 = **\$35,000 Annually per truck**

Hybrid Semi:

Maintenance + Insurance = \$11,000; Depreciation = \$150k / 10 years = \$15,000; Fuel = 60,000 Miles / 20 MPG = 3,000 x \$3.00 per gallon
= \$11,000 + \$15,000 + \$9,000 = **\$35,000 Annually per truck**

There are no annual savings Move onto question 3



Question 3:

Given the results of the analysis, would you recommend for National Logistics to invest in hybrid trucks? Why or why not?

Guidance:

There is no right or wrong answer (except “I don’t know”). This question is meant to judge how well a candidate can make a decision and justify their decision during moments of ambiguity.

Possible answers could include:

Yes. Possible rationales: The savings can be even more if gas prices continue to rise; the company can extend the useful life of the hybrid trucks to reduce depreciation expense; the company can explore negotiating maintenance costs down; Hybrid trucks are better for the environment and may have tax reduction implications; Switch insurance providers or negotiate on costs

No. Possible Rationales: Gas prices may fall, this making the standard trucks cheaper to operate; the purchase doesn't meet the company's primary goal of reducing costs; tying up resources in new trucks creates an opportunity cost against more potentially profitable projects

Many more sound rationales can be used to explain the candidate's choice. It is up to the interviewer to judge whether the candidate's judgement is sound



BRAINSTORM

The client also wants to get our thoughts on how they can reduce their shortage of truckers. Brainstorm some ways National Logistics can reduce their shortage.

Internal

Pay & Benefits (call out that these reduce profitability)

- Offer starting bonuses
- Increase salaries
- Offer more vacation
- More Flexible hours
- Better healthcare coverage

Reduce employment restrictions

- Lower education restrictions
- Low work experience

Get help internally

- Have overhead employees drive during peak seasons

External

- Hire contract drivers part-time during peak seasons
- Sponsor international drivers with visas
- Invest in autonomous truck technology
- Form delivery partnerships with competitors
- Look into heavy duty drones for short routes

Guidance: Internal options are plentiful. The most creative candidates will come up with innovative solutions that are external to the company. (Buckets don't have to be internal vs. external)



CONCLUSION

To conclude, the interviewee should provide the following:

Recommendation:

- Should National Logistics invest in new trucks? (Yes/ No) and why?
- (If not) what other cost saving initiatives can they explore (from framework)?

Risks:

- Fuel prices will impact savings
- Maintenance costs may vary
- Driver wages may continue to rise in strong economy

Next Steps:

- Explore other cost savings alternatives like... (refer to framework)
- Look for ways to reduce hybrid truck insurance or maintenance costs, etc..



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Styrofoam Situation

BCG | Round 2 | Manufacturing

STYROFOAM SITUATION

BCG | 2 | B2B

Prompt:

Your client is the CEO of Cup Co, a national supplier of Styrofoam cups to restaurants. While profit has been steady, she is worried about the influx of cheaper products from China by a new competitor (Chalice Inc) and has called you in to give a recommendation on how to ensure continued profitability.

Clarifying Information:

Note: Provide this only if corresponding questions are asked.

- Cup Co's customer base consists of only of restaurant chains in the US (think McDonalds etc)
- For the purpose of this case, assume Cup Co has only one product
- Cup Co manufactures its product in the US
- Chalice Inc is a Chinese based Company with no other product in the US

**BEHAVIORAL
INTERVIEW
QUESTION:**

1. Talk to me about how you built credibility in your first job
2. Tell me about a time you were part of a team and things did not go smoothly, what did you do? What lessons did you learn?



02 | CASE: STYROFOAM SITUATION

Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- All items should be framed relative to Cup Co. vs. Chalice Inc. (could be in a table)
- Financial considerations – simple profitability tree
 - Revenue – Number of customers, Average unit sold to customers, price per unit
 - Cost – Fixed cost of production, variable cost of production, overhead like shipping etc.
 - Mix – Not important since we are concerned about only one product
- Non-financial considerations
 - Customers – What matters to them?
 - Competition – both new and old

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- The revenue and cost structure for both Cup Co and Chalice Inc (provide exhibit 1)



EXHIBIT 1

	Cup Co. (Cents)	Chalice Inc. (Cents)
Price	10	7
Cost		
Manufacturing	4	4
Shipping	3	3
Distribution	-	2



Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1.

- Calculate the profitability for both Cup Co and Chalice Inc
- Quickly notice that Cup Co's net margin is 30% (which is good), while Chalice Inc is running at a loss
- All of Cup Co's profit will be eroded if they try to match Chalice Inc's price

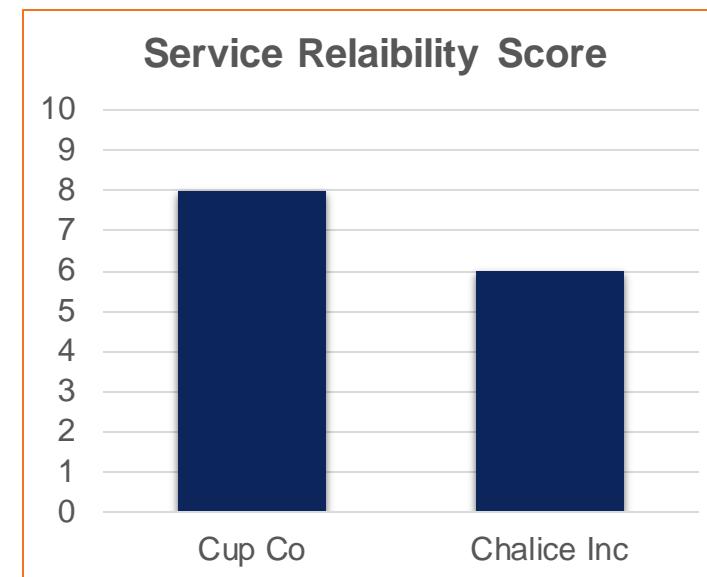
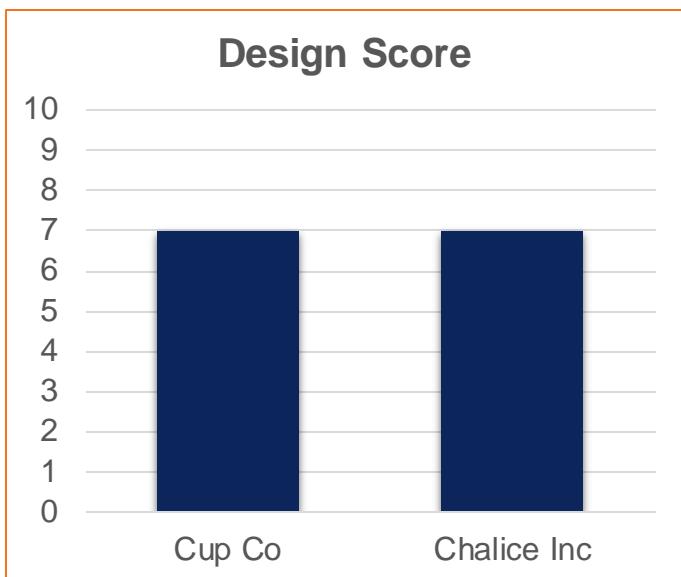
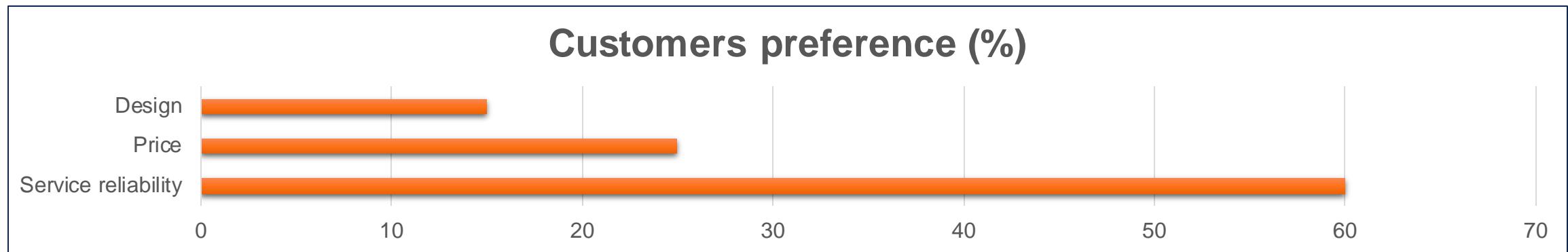
How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- Good interviewees will move to brainstorming why Chalice Inc is willing to sell at a low price even though they are losing money (possible ideas include lowering price to gain market share or US market knowledge for other product launches)
- Next, the interviewee should begin to explore options available to the Cup Co. Provide Exhibit 2 when interviewee asks for it



EXHIBIT 2



02 | CASE: STYROFOAM SITUATION

Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1. This is where you insert question and the answers to the question

- The most important metric to customers is reliability of service and Cup Co ranks a lot higher than Chalice Inc
- Good interviewee might point out the fact that importing products from China adds additional logistics problems which may be impacting their service reliability score

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- At this point in the case, the interviewee should move on to brainstorm Cup Co's possible responses



BRAINSTORM

Cup Co is currently in a good position relative to Chalice Inc. What are possible strategies to reinforce this position?



02 | CASE: STYROFOAM SITUATION

Brainstorming Guidance:

Note: This is just one possible set of categories and answers. Many more are possible, and interviewers should assess both the volume and relevance of answers.

Offensive Strategies:

- Lower prices a little in order to send a signal to customers
- Negotiate contracts with customers to lock them in
- Improve design (candidate should realize that while this isn't very important, it is worth exploring)

Defensive Strategies:

- Further identify ways to improve service reliability e.g. optimizing delivery routes

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- Good interviewees will identify which of the strategies identified above they want to explore first. Note that there are no right answers as long as the interviewee justifies their thinking.



CONCLUSION

To conclude, the interviewee should provide the following:

Summary:

- Cup Co is better positioned in the market than Chalice Inc. Price is not the customers' pain point, hence Chalice Inc does not currently present too much risks

Recommendation:

- Cup Co should not lower its price
- It should defend and possibly improve its rating in high service reliability

Risks:

- Price may become a pain point e. g if the economy experiences a down turn

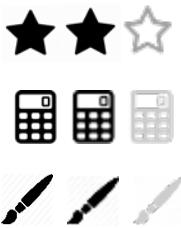
Next Steps:

- Explore ways to improve service reliability e.g. delivery route optimization



North-South Pharma Co.

A.T. Kearney | Round 1 | Healthcare



NORTH-SOUTH PHARMA CO

A.T. Kearney | Round 1 | Healthcare

Prompt:

North-South Pharma Co is a US-based pharmaceutical manufacturer. The company owns a plant in the United States that is active in serving US customers through pharmacies, and also owns an idle plant in South America.

1. Market Size: Forecast Revenue for North-South Pharma Co
2. What should North-South Pharma Co do with its idle South American facility

Encourage the student to size the market, making assumptions as necessary.

**BEHAVIORAL
INTERVIEW
QUESTION:**

1. Please tell me about a time that you had to deliver difficult news in a professional environment.



Market Sizing Guidance:

- *300M people in US x 10% visiting doctor = 30M people getting prescriptions*
- *30M prescriptions x 20 refills/yr. = 600M prescriptions/yr*
- *600M prescriptions x \$0.50/prescription = \$300M*
- *North-South Pharma Co 5% market capture = \$15M revenue opportunity*



Prompt #2:

What should North-South Pharma do with its idle South American facility?

Candidate should now create a framework.



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- One possible framework would be a matrix with the different facility locations (US and SA) in the columns, and cost categories (Fixed and Variable) in the rows.

Insights:

A strong candidate will point out items such as:

- The SA facility will have cheaper fixed costs for: land, SG&A, Marketing, PPE, etc.
- Shipping & Delivery to serve US customers (only serves US patients) will be expensive
- Variable cost for labor will be cheaper and materials may be cheaper.



How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- Profitability, with a focus on operating costs in the US vs. in South America



EXHIBIT 1

**Interviewer
should not
show this to
the student. Let
them ask for
this cost info
then provide
verbally.**

	US	South America
REMEMBER Revenue	\$ 0.50	\$ 0.50
Labor	\$ 0.10	\$ 0.05
Raw Materials	\$ 0.10	\$ 0.05
Transportation	\$ 0.05	\$ 0.20
Total	\$ 0.25	\$ 0.30
Contribution Margin	\$ 0.25	\$ 0.20
Fixed Cost	\$ 5,000,000	\$ 4,000,000
Capacity	50,000,000	20,000,000
REMEMBER Max necessary production (based on #1)	30,000,000	30,000,000
CM Total	\$ 7,500,000	\$ 4,000,000
Fixed Cost	\$ 5,000,000	\$ 4,000,000
Profit	\$ 2,500,000	\$ -

Provided in #1 market sizing; interviewer should not provide again

Provided in #1 market sizing; interviewer should not provide again



Exhibit Guidance:

Based on profitability analysis, student should draw the following conclusions

- The SA facility is only breaking even whereas US facility is profitable
 - “Based on this analysis, I’m led to believe the SA facility may be a candidate for shutdown.”
 - Alternative idea: “Transportation cost is the driver of high variable costs, so either shut it downdispose of it, or get it up and running to serve local South American market where transportation costs would likely be lower”.
- Student should seek to drive to conclusion – think about what North-South could do with SA facility...



BRAINSTORM

Brainstorming prompt:

Student should seek to drive to next step in conclusion – think about what North-South should do with SA facility. If he/she does not get there, interviewer should prompt with question:

What else can North-South Pharma Co do with South American facility at this point?



Possible Brainstorm Responses:

Student should begin brainstorming opportunities:

- Sell facility
 - As-is to a competitor or manufacturing company
 - In-pieces with equipment, materials, land, sold separately
- Repurpose facility
 - Use as training facility for workers in US plant
 - Use as a sales facility only (may not be ideal as high cost for large lot of land and facility)
 - Sublet to competitor or manufacturing company
- Get facility up and running to serve South American medical market (enter new market)
- ~~Burn facility to the ground for the insurance money (possible ethical dilemma?...but certainly creative)~~



CLOSING BRAINSTORM

Brainstorming prompt:

Interviewer should not need to provide prompt; student should begin to ask questions and consider implications of actions described in previous slide. If student has exhausted thought process, provide final brainstorm:

What would be the implications of keeping the facility and entering the South American market for pharmaceuticals?



Brainstorming Guidance:

Internal:

- Get workforce up and running
 - Hiring (sales, manufacturing, distribution)
 - Training (sales, manufacturing, distribution)
 - Onboarding new employees
- Manage distribution
 - Hold inventory for local distribution (vs. shipping inventory to US immediately after production)
 - Find and build relationships with distribution partners (medical product carriers)
 - Build relationships with hospitals/pharmacies to become prescription provider
- Don't alienate current workforce or clients; damage brand
 - Paying too much attention abroad may lose sight of work in US facilities
 - Clients in US may be discouraged by entry into emerging market; brand perception implications

External:

- Determine market size and opportunity in South America
 - What is target population?
 - Where is demand located?
 - What are demand conditions for prescriptions in South America?
- Evaluate health landscape in South America
 - What prescriptions will North-South need to manufacture/distribute and what are dynamics of creating/selling them?
- Evaluate South American geopolitical environment impacting corporations
 - What are taxation rules for corporations selling in South America?
 - What regulations exist governing pharmaceuticals in South America
 - How does corruption affect corporations and pharma market in South America in particular



CONCLUSION

Summary:

- North-South Pharma Co is a pharmaceutical manufacturer and distributor with facilities in the US and South America but distribution operations currently limited to the US

Recommendation:

There are multiple correct answers:

- Get rid of the facility
 - **Risks:** low selling price, letting go of existing employees in SA bad for morale and expensive (severance)
 - **Next Steps:** contact real estate agent in SA to identify potential buyers; work with human capital consultancy to limit employee layoffs (repurpose employees) and impacts
- Maintain facility and enter market for pharmaceuticals (sell/distribute) in South America
 - **Risks:** high cost of entering entirely new market; regulatory hurdles; alienate/neglect current US employees and clients
 - **Next Steps:** Contact legal aid to determine regulation and steps to selling; prospect hospitals and pharmacies to introduce selves



CASE EVALUATION (OPTIONAL)

The best interviews with this case include the following: (Enter key things an interviewer should look for in this case

- Interviewee should be independent in sizing the market, willing to make assumptions where necessary and asking for information as needed (ex. how much revenue does North-South Pharma Co make per prescription)
- Interviewee should drive to solution after completing Exhibit 1 math (What does it mean for the US facility to be profitable but the South American facility to be breaking even? How should North-South think about that in the shut down/keep open context)
- This case hinges around brainstorming – interviewee should be creative in considering options for North-South/what the firm can do with the idle facility, and in considering implications of entering a new market in an emerging economy (potentially veering from existing US-centric sales/distribution model)



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Function Knowledge

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise/ Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Fire Proof Inc.

Parthenon | Round 1 | Manufacturing

FIRE PROOF

Parthenon EY | Round 1 | Manufacturing

Prompt:

The CEO of Fire Proof Inc. wants to find new ways to diversify her revenue and product line. Currently, Fire Proof only sells fire resistant jackets, gloves, hard-hats, and tools to government sponsored fire departments nationwide. The CEO believes the company can expand their operations to make equipment for other industries. How would you advise Fire Proof Inc.?

Clarifying Information: *Note: Provide this only if corresponding questions are asked.*

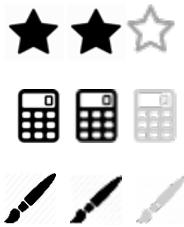
How does Fire Proof Inc. make money? They sign contracts with municipalities and cities to supply fire proof apparel to fire departments

How large is Fire Proof Inc.? Fire Proof Inc. does \$500M in annual sales and has been growing at 4% yearly over the last 5 years

How many competitors do they have / Market position? Fire Proof is number 1 in the fire equipment market but they have 3 main competitors that compete for government contracts

How diversified are their competitors: Fire equipment makes up no more than 25% of all 3 competitor's revenue.

Why haven't Fire Proof diversified their business before? The company focused on mastering what they knew and improving their operations in building fire equipment



BEHAVIORAL INTERVIEW QUESTION:

1. What is your favorite class at Darden and why?
2. Tell me about a time where you had to make a decision with limited information. What was your approach?



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

Internal Capabilities	Product Similarities	Market Attractiveness	Financials
<ul style="list-style-type: none">• Manufacturing capacity<ul style="list-style-type: none">- Can we build it?• Supply chain capacity<ul style="list-style-type: none">- Do we have the network?• Industry knowledge<ul style="list-style-type: none">- Do they have the talent to make a good product?• Financial resources<ul style="list-style-type: none">- Can Fire Proof afford investment required?	<ul style="list-style-type: none">• Raw material overlap<ul style="list-style-type: none">- Can we use the same materials• Customer Overlap<ul style="list-style-type: none">- Are the customers similar? (government)• Production overlap<ul style="list-style-type: none">- Is the manufacturing process similar?	<ul style="list-style-type: none">• How many competitors are in the new industry?• What is the size of the new market?• Is the new market growing?• Are there high barriers to entry?	<ul style="list-style-type: none">• What is the investment required to enter new market?• Do you acquire a company or build internally?• What are the new profit margins Fire Proof can achieve?• When can the company break even?

How to Move Forward:

To move forward, the interviewee should address any form of product similarities as a criteria somewhere in their framework. Call attention to that bullet point and mention the text below.

Mention: client has done some research into the supplying equipment for police departments. Exhibit 1 details some of the information they have found. Hand the interviewee Exhibit 1.



EXHIBIT 1

Police Equipment	Production Overlap	Market Size	Market Growth*	# of Competitors
 Officer Uniforms		\$1.5B	5%	3
 Hand Cuffs		\$300M	-2%	8
 Police Badges		\$100M	3%	4
 Bullet Proof Vests		\$600M	10%	20
 Weapon Holsters		\$300M	5%	12
 Riot Shields		\$450M	12%	6
 Body Cameras		\$250M	50%	25

* Annual market growth over the last 3 years



Question 1

- Which product market is the most & least attractive for Fire Proof to enter? Why?

Exhibit & Question Guidance:

After looking at exhibit 1, candidates should be able to identify and call out the following:

- The most attractive markets have 1. high production overlap, 2. large market sizes, 3. high growth, and 4. higher number of competitors (fragmented market)
- Call outs:
 - **Most attractive:** Bullet Proof Vests –Why? 1. High production overlap, 2. Second largest market size, 3. Double digit growth, 4. Fragmented market for easier penetration
 - **Least Attractive:** Police Badges –Why? 1. Low production overlap, 2. Smallest market 3. Low growth, 4. Highly concentrated market
 - **Bonus call outs:**
 - Uniforms look interesting because of its large size and overlap, but the high concentration of competitors makes for a difficult market entry
 - Body Cameras look interesting due to the high growth and market fragmentation, but this should be avoided because it is out of Fire Proof's area of expertise (as illustrated from the low overlap)
 - Riot Shields are a close second place to bullet proof vests because although it has a faster growth rate, it also has fewer competitors (more concentrated market)
- Once the candidate identifies that bullet proof vests is the most attractive market, move on to question 2.



Question 2:

Our team has done some internal analysis and have identified that Fire Proof can realistically capture 30% of the bullet proof vest market in 3 years. What is Fire Proof's projected revenues for bullet proof vests in year 3?

* Supply only when asked: *Assume that the market will continue to grow at 10% each year over the next 3 years*

Directions:

Math analysis:

10% of 660
↓

Year 1: $(\$600M \times 1.1) = \$660M$; Year 2: $(\$660M \times 1.1) = (\$660 + \$66M) = \$726M$; Year 3: $(\$726M \times 1.1) = (\$726M + \$72.6M) = \$798.6M \sim\text{round to } \$800M$

Fire Proof Revenue = \$800M x 30% = \$240M In 3 years



Question 3:

Our team has identified that Fire Proof will need to invest \$100M in capital expenditures to configure their plants to make bullet proof vests. If the company has a target ROI in 3 years of at least 15%, will they meet their goal?

- Supply only when asked:
 - Estimated market share by year: Year 1: 10%, Year 2: 20%, Year 3: 30%
 - Average yearly net profit margin: 25%

Directions:

Math analysis:

$$\text{Year 1: Revenue} = 10\% \times \$660M = \$66M$$

$$\text{Year 2: Revenue} = 20\% \times \$726M = (72.6M \times 2) = \$145.2M$$

$$\text{Year 3: Revenue} = 30\% \times \$800M = \$240M$$

$$\text{Total net profit over 3 years} = \$16.5M + \$36.3M + \$60M = \$112.8M$$

$$\text{ROI} = \sim \$113M / \$100M = \sim 13\%$$

$$\begin{array}{rcl} 2 \times 10\% \text{ of } 66 & & 1/2 \times 10\% \text{ of } 66 \\ \downarrow & & \downarrow \\ \text{Net Profits: } (25\% \times \$66M) = \$13.2M & + & \$3.3M = \$16.5M \end{array}$$

$$\text{Net Profits: } (25\% \times \$145.2M) = (\$14.52 \times 2) = \$29.04M + 7.26M = 36.3M$$

$$\text{Net Profits: } (240 / 4) = \$60M$$

Post Analysis question:

Ask the interviewee if he/she thinks this is still a good investment despite not hitting the 15% goal. (No right or wrong answers). Expected answers: **Yes**, because it is very close and the company needs to diversify (main priority); **No**, because there may be other markets we haven't explored yet that can allow them to hit their goals.



BRAINSTORMING

Beyond just the police department, what are other markets and/or products that Fire Proof can consider to diversify their revenue stream?

Brainstorming Guidance:

Note: This is just one possible set of categories and answers. Many more are possible, and interviewers should assess both the volume and relevance of answers.

Military Equipment

- Military vests
- Weapon Harness
- Military uniforms
- Etc.

Medical Accessories:

- Medical coats
- Stethoscopes
- Gloves
- Tunics

Construction:

- Hardhats
- Construction jackets
- Safety visors / glasses
- Hammers, pick-axe, etc.

Recreational Gear

- Hiking Boots
- Heavy duty jackets
- Sleeping bags
- Thermal gear

Creative candidates will be able to quickly map out alternative industries and products for diversification. The best candidates will have clear buckets representing industries followed by a list of potential product lines to support that industry / market.



CONCLUSION

To conclude, the interviewee should provide the following:

Recommendation:

- Should Fire Proof diversify their product stream to make bullet proof vest for police departments? (Yes/No & why?)
 - Mention:
 - What makes the market attractive / not attractive?
 - What are the financial implications?

Risks:

- (If yes): Could include - Cost overruns to \$100M projected investment, competitors fight back hard; thus eroding profit margins, competitor relationships with customers may be strong, government budgets could change, etc.
- (If No): Potential lack of other alternatives, another competitor enters bullet proof vest market first, company is still undiversified

Next Steps:

- Explore other potential markets (as discussed in brainstorming session), explore acquisition vs internal investment approach, dive deeper into competitor contract relationships, etc.



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

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1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



High Quality Bottles

Parthenon | Round 1 | Manufacturing

HIGH QUALITY BOTTLES

Parthenon | Round 1 | Hospitality/ Manufacturing

Prompt:

After successfully servicing large beverage companies over the last 20 years, our client, the CEO of High Quality Bottles (HQB), a small plastics manufacturing and bottling company, wants to expand into the hospitality and leisure space. Specifically, she wants HQB to supply local hotel chains with bottled toiletries like shampoos, conditioners, body wash, and lotions. HQB already has the interest of local hotels in their hometown and they need your help in identifying the potential size of this business and deciding if it is worth pursuing. How would you approach finding the market size for the first year in this expansion?

Clarifying Information: *Note: Provide this only if corresponding questions are asked.*

What is the size of the city? –Medium sized city, about the size of Seattle or Dallas

How many hotels are in the local market? –There are roughly 50 hotels in the region

Are we looking for dollar value or units? The client is primarily focused on market size in dollar value

What is goal/ makes this a desirable venture? Right now the client only wants to know market size but later, profitability, namely potential profit margins above 25% will be important in determining if the market is attractive

How broad of a market is HQB looking at? The client's only focus is the local hotel market

Which products is HQB looking to supply? Only shampoos, body wash, conditioners, and lotions for each hotel room (1 of bottle each for a total of 4 per hotel room)

How big is HQB's Business currently? –HQB currently does \$20 million in revenue



BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about a time where you leveraged data to make a decision.

2. Tell me about a time where you had to convince others to see something your way.

05 | CASE: HIGH QUALITY BOTTLES

Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- The interviewee should create a framework that identifies the key elements needed to find the market size. -An ideal framework should contain some of the following elements:

Room Count

- # of hotels in the region
- Avg. # of rooms per hotel

Occupancy

- Avg. occupancy rates (per night, week, year, etc.)
- Average length of stay
- OR average number room turnover per week

Order & Replenishment

- Number of bottles per room
- Avg. number of bottles used per stay
- Price charged per bottle

- Strong candidates will identify that they will need to calculate: (first order + all future replenishment orders) = Market size because they are looking at the first year's market size.

How to Move Forward:

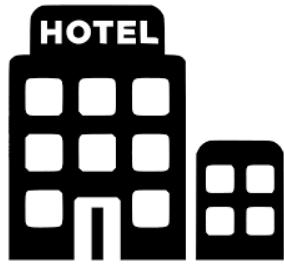
To get to the next portion of the case, the interviewee should ask to explore:

- Once the interviewee has at least some measures of (room count, occupancy, and replenishment), the interviewee should ask for at least one of those values to get exhibit 1. –Hand the interviewee exhibit 1 and move on to question 1.



EXHIBIT 1

REGIONAL HOTEL INDUSTRY STATISTICS



50 Hotels



120 Rooms / Hotel



80% Occupancy Rate



3 Stays per Week**

*HQB Estimates that the average guest will use 2.5 bottles per stay

** The average stay is two nights per week which means each room typically turns over 3 times a week

Exhibit 1 Guidance:

- **QUESTION 1: What is the market size of supplying hotel toiletries in this region in dollars in year 1?**
- **ANSWER:** (*Additional pricing per bottle information listed in “how to move forward session below”*)
 - **INITIAL ORDER:** Hotels (50) x Avg. Rooms / Hotel (120) = Total Rooms (6000) x Number of Bottles / Room (4) = Total Bottles 24,000
 - **REPLENISHMENT ORDERS:** Hotels (50) x Avg. Rooms / Hotel (120) = Total Rooms (6000) x Occupancy Rate (80%) = Rooms being used (4800)
 - Room Usage (4800) x Stays / wk. (3) = Total Stays / wk. (14,400) x Avg. Bottles Used / Stay (2.5) = (36,000) Bottles / wk.
 - Bottles / wk. (36,000) x wks. / year (50) or (52) = bottles / year 1,800,000 or 1,872,000
 - **Initial Order** (24,000) Bottles x Price (\$0.50) per Bottle = **\$12,000** + **Replenishment:** 1.8M or 1.872Mx (0.50) = **\$900k** or **\$936k**
 - **Market size for this region is (\$12k + 900k) = \$912k if they rounded and (\$12k + \$936k) = \$948k if they didn't round**

How to Move Forward:

- The interviewee is missing information on the price per bottle. Only provide the following if asked: The price per bottle charged to each hotel is \$0.50
- It is strongly advised and acceptable that the interviewee uses 50 weeks/ year rather than 52 weeks
- Once the interviewee comes up with a number, move forward to the next brainstorming session



BRAINSTORM

What other information should the client know to determine whether this is an attractive business to enter into?

The interviewee should list new things that were not previously included in the framework. Use the brainstorming hints on the next page to identify possible solutions



05 | CASE: HIGH QUALITY BOTTLES

Brainstorming Guidance:

Note: This is just one possible set of categories and answers. Many more are possible, and interviewers should assess both the volume and relevance of answers.

Internal Factors

- Cost of Ingredients
- Cost of Labor
- Cost of Plastics / Raw Materials
- Distribution Costs
- Factory Capacity
- Capital Expenditure Costs
- Depreciation of equipment

External Factors

- Number of Competitors
- Health of local tourism economy
- Health of local Businesses (Business Travel)
- Emergence of threats to hotels like Air BnB
- Sustainability trends (recycling, water usage, etc.)

Directions:

To get to the next portion of the case, the interviewee should ask to explore:

- Ask the interviewee which element he /she would like to focus on to gauge whether this is a great business idea.
 - The interviewee should at least mention one of the following costs: raw material, distribution, ingredients.
 - Once mentioned, read off the data points on the next page to the interviewee.



ADDITIONAL DATA POINTS

HQB has supplied us with the following data points:

(Do not give this page to the interviewee)

Cost of Ingredients: \$0.20 per bottle

Cost to make Bottle: \$0.05 per bottle

Cost of Distribution: \$1.00 per case

Bottles per case: 20 bottles

Fixed Labor* \$100,000/ Yr.

Cap Ex for new equip.: \$250,000

Depreciation Straight-line over 10 years starting with year 1 to \$0 salvage value

QUESTION 2: What profit margin can HQB expect in the first year if it captured 100% of the market?

Math Guidance:

The interviewee should notice and verbally acknowledge the following:

- Raw material & Ingredient Costs: 50% of revenue or 25% of total Y1 volume $1.824M \times .25\% = \$456k$, or $\sim 1.9M \times .25\% = \sim \$475k$
- Distribution Costs: Cost/ Bottle = $(\$1/ 20 \text{ bottles}) = 0.05 \times 1.824M = \$91.2k$ or $\sim \$95k$ (52 wks.)
- End formula: Rev – Fixed Labor – Variable materials costs – Distribution – Depreciation = Profit dollars/ revenue = PM
 - $\$912k - \$100k - \$456k - \$91.2k - \$25k = \sim 240k / \$912k = \sim 26\%$ Profit Margin (Answer Between 25-30% is fine)
 - $\$950k - \$100k - \$474k - \$95k - \$25k = \sim 256k / 950k = 27\%$ Profit Margin (Answer Between 25-30% is fine)

Directions:

- The Interviewee should identify that the full Cap Ex. should not be included in the profitability calculation –only the first year's depreciation
- Interviewee is not expected to give the exact profit margins. Just the range to gauge mathematical judgement

QUESTION 3: Considering that HQB's average profit margin on its beverage operations is 25%, is this new business opportunity attractive?

- Generally, the answer is yes since the profits are close / a little higher in the new business



CONCLUSION

The client is about to come in at any moment, can you summarize your findings and recommendations for this expansion?

Summary:

- Interviewee should quantify the market size
- Quantify the profit margins

Recommendation:

- Move forward or not with expansion (No right or wrong) but should explain why

Risks:

- Changes to raw material costs could significantly reduce profitability below threshold
- Single region risk
- Market share is unlikely to be 100%

Next Steps: (Potential points)

- Look at scale expansions beyond region
- Looking at hedging process for input costs



CASE EVALUATION (OPTIONAL)

The best interviewees on this case include the following:

- Identify goals of the case in clarifying questions
- Include all elements needed to market size the region
 - Realize that they'll need to calculate the size of the initial order + replenishment order
- Understand how to pull the pieces together in exhibit 1 to calculate market size
 - They should also recognize that they need the price per unit of each bottle (which isn't directly given)
- Brainstorm appropriate measures needed to identify if business is attractive
- Able to pull all the cost information together to create a profitability picture
- Tie the fact that this business has a 25-30% margin vs. the former beverage business
- Identify the fact that fluctuations in raw materials variable costs can reduce profit margins to below threshold



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Canyon Capital Partners

Bain & Co. | Round 1 | Financial Services



CANYON CAPITAL PARTNERS

Bain & Co. | Round 1 | Industry

Your client is Canyon Capital Partners (CCP). CCP is a long-established hedge fund headquartered in Hartford, CT. Hedge funds make money mainly out of management fees and carried interests. Over the past two years, CCP's profits have been declining. Its CEO and founder has hired you to help her understand why are profits trending down and what should she do to restore the firm to a more profitable route.

Clarifying Information:

Note: Provide this only if corresponding questions are asked.

What do hedge funds do? → Manage their investors' money to generate above market investment returns. CCP only invests in US public equity markets.

How much money does CCP manage? → Current assets under management (AUM) are \$ 2.1 billion. In the past three years, the fund has not had any new in or outflows of investor money.

What are management fees? → Fixed fees paid on the average balance of assets under management. CCP's management fees were 2.0% per year, but were reduced to 1.5% since 2016 because of competitive pressure.

What are carried interests? → Share of investment performance appropriated by the fund's managers as additional compensation. CCP takes 20% of all investment gains in excess of the 15% hurdle rate in the year.

BEHAVIORAL INTERVIEW QUESTIONS:

1. TELL ME ABOUT A TIME WHEN YOU WERE PART OF A HIGH PERFORMING TEAM. WHAT WAS YOUR ROLE IN ACHIEVING SUCCESS?

2. IF I TALKED TO YOUR LAST BOSS, WHAT IS THE ONE BEST THING HE OR SHE WOULD TELL ME ABOUT YOU?



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- Revenues
 - Management Fees
 - Assets under Management
 - Carried Interests
- Costs
 - Employee Compensation
 - Office Rent
 - Research Materials
- External
 - Regulation
 - Competition
 - Market Trends

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- The interviewee should explore both trends in Revenues and Costs. External factors should not be explored in this analysis.
- Exhibit 1 should be given upon request of data on Revenues.
- Exhibit 2 should be given upon request of data on Costs.



EXHIBIT 1 – AuM & Investment Performance

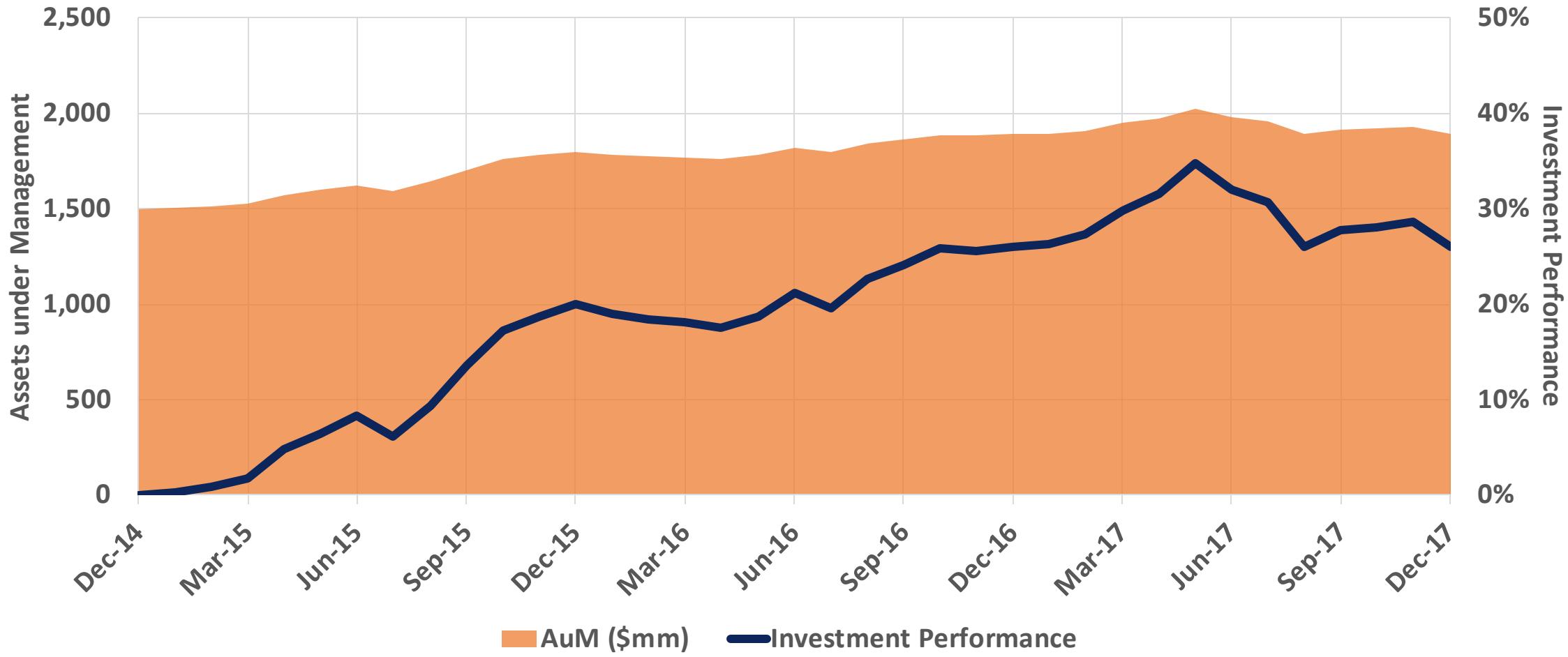


Exhibit Guidance:

The interviewee should notice that AuM is steadily increasing and that investment performance was good in 2015, but disappointing in 2016 and 2017. The interviewee should proactively calculate total revenues per year.

NOTE: The interviewee may require coaching and should not be penalized for this, but he or she should drive the discussion. If interviewee asks for specific figures, ask them to estimate based on what is visible in the chart.

	2015	2016	2017
Average AuM (\$mm)	1,600	1,800	1,900
Management Fee (%)	2.00%	1.50%	1.50%
Management Fee Revenue (\$mm)	32.0	27.0	28.5
Investment Performance	20%	5%	0%
Carried Interests Revenue (\$mm)	15.0	0.0	0.0
Total Revenues (\$mm)	47.0	27.0	28.5

Carried Interest Revenues	2015
1 – Initial AuM (\$mm)	1,500
2 – Total Return (%)	20%
3 – Total Return (\$mm) [1×2]	300
4 – Excess Return (\$mm) [3–1×15%]	75
Carried Interests (\$mm) [4×20%]	15

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- If the interviewee started by exploring revenue trends, he/she should next ask about costs.



EXHIBIT 2 – Employee Headcount

	2015	2016	2017
C-Suite	3	3	3
Portfolio Managers	3	3	4
Associates	7	10	16
Analysts	13	11	9
Traders	3	3	3
Support Staff	7	8	9



Exhibit Guidance:

The interviewee should notice the increasing headcount and how the number of associates has been increasing rapidly while the number of analysts has decreased in the same period.

- When asked about compensation structure, disclose that each employee receives annual salaries according to the table below.
- Only C-suite and Portfolio Managers receive variable compensation. It is directly tied to fund profitability and therefore irrelevant to profitability analysis.

	Salary (\$)		Salary (\$)		2015	2016	2017
C-Suite	1,500,000	Analysts	100,000	Total Revenues (\$mm)			47.000
Portfolio Managers	500,000	Traders	200,000	Total Salary (\$mm)			10.175
Associates	250,000	Support Staff	75,000				27.000 28.500
						10.800	12.675

Directions:

To get to the next portion of the case, the interviewee should ask to explore:

- If asked about office rent, say that the fund has a long-term lease with minor annual price adjustments. Irrelevant to the analysis.
- If asked about research material costs, say that the fund has not made any changes to its research resources in the past years, nor have prices changed.
- If the interviewee started by exploring cost trends, he/she should next ask about revenues.



CONCLUSION

To conclude, the interviewee should provide the following:

Summary:

- CCP's revenues have trended down because of lower management fees and recent poor investment performance. Costs have been up because of increasing headcount and disproportionate ratio of associate to analysts.

Recommendation:

- ↑ Revenues → Increase management fee. Increase assets under management. Employ new investment strategies to improve returns.
- ↓ Costs → Promote employee turnover through meritocracy. Reduce number of associates and increase number of analysts.

Risks:

- Increasing management fee may scare off investors.
- Employee morale could be hurt by letting go of associates. Fund future growth could be hurt by decreasing headcount.

Next Steps:

- Create strategy for new round of fund raising.
- Which associates to let go. Set rules for employee turnover and promotion.



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ____ / 15

Communication: ____ / 10

Behavioral: ____ / 15

Total Score: ____ / 40

Total Time: ____ : ____



Transportation Tech Co.

Parthenon | Round 1 | Technology



TRANSPORTATION TECH CO.

Parthenon | Round 1 | Technology

Prompt:

Our client, Transportation Tech Co., is a key player in the transportation technology space. Recently, the client developed an innovative GPS fleet tracking device which it believes could prove valuable to K-12 schools in the US. We have been engaged to help our client determine whether this product should be rolled out as a school bus tracking device.

Clarifying Information:

Note: Provide this only if corresponding questions are asked

- *Product* – The device transmits location and ETA info to schools and parents/legal guardians. Parents, bus drivers, and school administrators access transmitted data and messages via a proprietary phone/tablet application
- *Objective* – The client's primary goal is to figure out the best context/industry in which this product should be rolled out. Success is defined as profit maximization.
- *Business model* – Our client will generate revenues by (1) initial sales of the devices and (2) technology service plans. For purposes of this case, we are primarily focused on (1).
- *Life span* – The product would have a 5-year life span.

BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about a time you had to motivate a teammate to do something he/she didn't want to do.
2. Tell me about a time when you went beyond your responsibilities to achieve a goal.



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- Customers – who would our client be selling to in a school bus context?
- Competitors – What, if any, similar products are being used?
- Financial considerations – (2) Potential market size and (2) profit tree
 - Candidate should think about the potential sources and drivers of revenues and costs associated with the product. These should be case/industry specific!
- Push the candidate to think through the buying process. If the candidate asks, you can tell them that purchasing decisions are made by different decision-making units across school settings (i.e. district-level, school-level, bus drivers, etc.)
- If they don't do so on their own, push candidates to consider the specific benefits which could be derived from this product, for specific key stakeholders (i.e. schools, bus drivers, students, parents, etc.)

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- Market sizing



QUESTION 1

What is the potential addressable year 1 market size for this device in the US school bus space?

Guidance:

Tip: Candidates should begin market-sizing by verbalizing their formula/approach to size the market. For each variable laid out, candidates should verbalize what information would be needed to solve for that variable (i.e. sometimes there will be multiple layers) and then confirm that the approach is reasonable to the interviewer. The candidate should then ask for the relevant info as they tackle each variable in solving the market-sizing problem.

1. # School buses in the US = (# K-12 students in the US * % students riding bus)/(# students per bus)
 - a. Assume school-aged kids are 4-18; assume 320M people in the US, evenly distributed across ages, with life expectancy of 80 years (i.e. 4M/year) = $15 * 4M = 60M$
 - b. Assume 60% of students aged 4-13 ride and 30% of students aged 14-18 ride = $(10/15 * 60\%) + (5/15 * 30\%) = 120\%/3 + 30\%/3 = 150\%/3 = 50\%$
 - c. Assume average bus has roughly 13 rows on each side and can seat 2 students per row = $13 * 2 * 2 = 53 \text{ students per bus}$ (appropriate to round to 50 or 60)
 - d. ((a) * (b)) / (c)) = $(60M * 50\%) / 50 = 600K \text{ buses}$
2. # units per bus = **2 (give to candidate once they ask)**
3. Selling price per unit = **\$200** (give to candidate once they ask)

Total potential addressable year 1 market size: (1) * (2) * (3) = $600K * 2 * \$200 = \$240M$



QUESTION 2

If the client were to enter the school bus market, what do you think its year 1 new device sales would be?

Guidance:

- Year 1 revenues = Potential year 1 market size * year 1 product adoption percentage

There is no correct response to this question. Here the interviewer should be looking for the candidate to demonstrate business acumen and support his/her response. For example, most schools are very resource-constrained, so year 1 adoption of 10% might be reasonable. Whatever the case, the interviewer should push the candidate for supporting rationale for the product adoption % chosen.



QUESTION 3

What would you expect to be the annual revenues (in terms of new product sales) in year 5?

Guidance:

- If they ask, candidates can assume that the overall market will not grow
- Year 5 revenues = (Potential year 1 market size – year 1 revenues – year 2 revenues – year 3 revenues – year 4 revenues) * year 5 product adoption percentage
- Here the key is to remember that the product has a 5-year life span, so any school purchasing the device in years 1-4 would be “out” of the market in year 5
- Candidates should state their assumptions about adoption rates for years 2-5



QUESTION 4

What are some other sectors and outlets that could make sense for this new technology?

Guidance:

- Push the candidate to brainstorm
- Some examples might include commercial freight, shipping, public transportation, flight, cruise ships, rescue boats, tour buses, drone fleets, etc.



QUESTION 5

Looking at the following data, which additional outlets do you think appear attractive? Why?



EXHIBIT 1

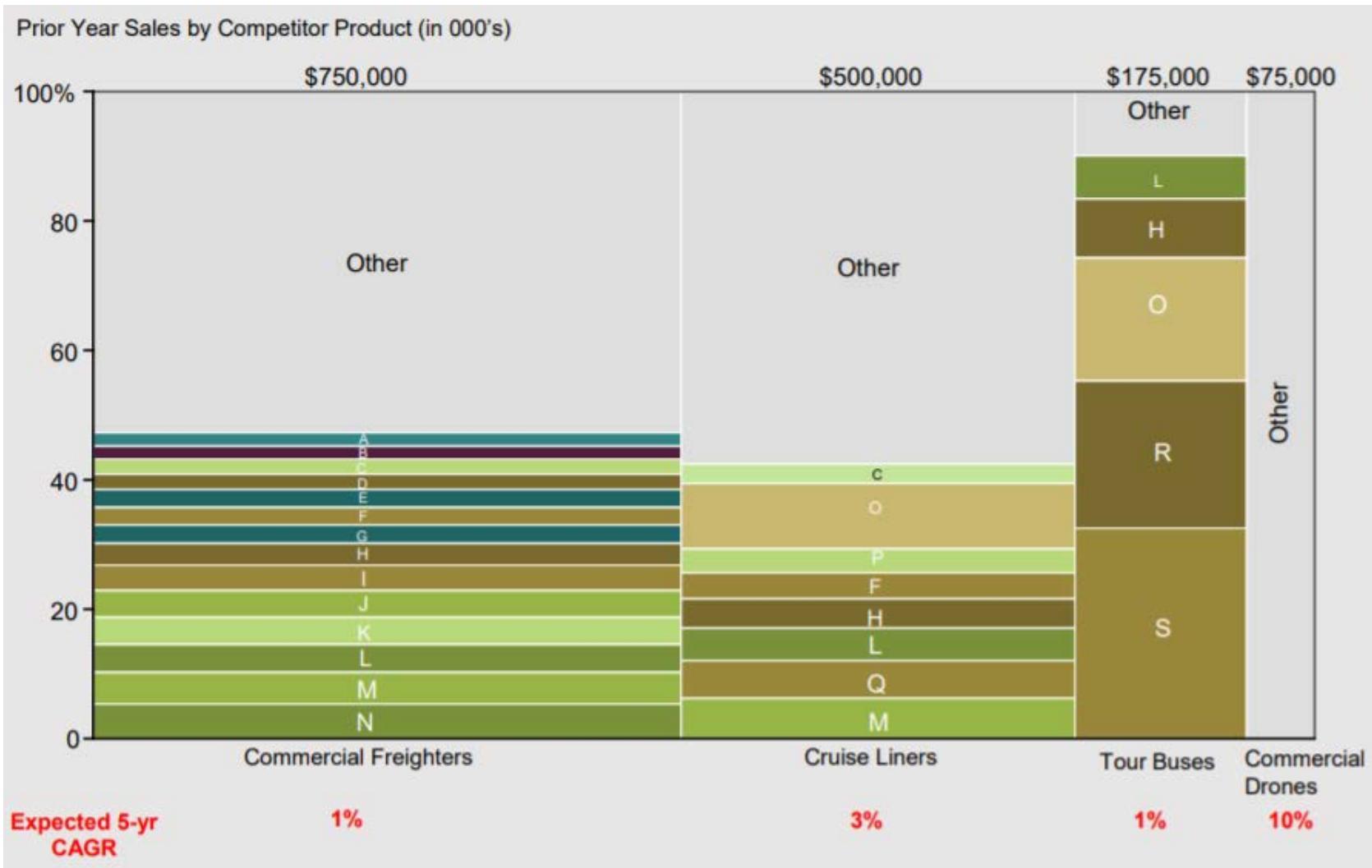


Exhibit Guidance:

- The candidate should avoid getting confused by the large amount of detail included in the exhibit. They should quickly drive to insights once they understand the data presented
- The key insights are:
 - Commercial freighters and cruise liners are the two largest markets and lack dominant competitors (highly fragmented)
 - High growth rate in the commercial drone segment is not compelling enough to merit entry as annual segment sales would only reach \$120M in 5 years (using the rule of 72, sales wouldn't double for 7.2 years), still making it the smallest segment.
 - Thus, commercial freighters and cruise liners would be the two most attractive additional segments from the exhibit. This does not necessarily mean, however, that the client should enter these markets



CONCLUSION

How should the client proceed?

To conclude, the interviewee should provide the following:

Summary

- Recap the objective and important data and insights from the case

Recommendation:

- Make a recommendation about whether the client should enter the school bus segment and why
- Address any other segments that might be attractive for the client

Risks

Next Steps



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Lonely Gas Station

BCG | Final Round | Retail/Oil & Gas



LONELY GAS STATION

BCG | Round 2 | Retail/Oil & Gas

Prompt:

Our client is the owner of a gas station between towns A and B – 10 miles to each town. He is wondering if it would make sense to add a convenience store to the gas station.

This is intentionally open-ended. The interviewee will have to ask multiple questions to frame the problem and gather the information necessary.

Clarifying Information:

Note: Provide this only if corresponding questions are asked.

- There are no other gas stations in town A or B
- Gas is 75% of revenue (10% profit margin) and the gas station also offers car washes (25% of revenue, 20% profit margin)
- Criteria for “making sense” – 1) making profit, 2) having a better chance to hold off new competitors enter the market, 3) diversifying income
- The gas stations current customers are residents of town A and B; there are no other customers

BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about a time you've failed as a leader.

2. What would your learning team tell me about you?



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

- Revenue/profit of current and potential business
 - Gas station business
 - Convenience store business
 - Potential revenues, costs, up-front investment
 - Would adding the convenience store bring in additional gas station customers?
- Market/Competition
 - Market size
 - Other convenience stores?
 - Growth in town A and/or B?
 - Changes in preference for gas (electric cars? Public transportation?)
- Product and client capabilities
 - Knowledge of retail/convenience stores
 - Supplier contacts
 - Management experience; potential to contract an external party to run convenience store



QUESTION 1

How profitable is the current business?

The interviewee should structure a logical approach to marketsizing on their own; provide these numbers only after they identify that they need the information

Market information:

- 1000 people in each town
- 80% of population owns a car
- 50% of car owners get gas from client

Math:

- Per town: $1000 * 80\% = 800$; $800 * 50\% = 400$
- **Total: $400 * 2 = 800$ person customer base**

Profitability information:

- Customers get gas on average 1x/week
 - Can tell interviewee to round down to 50 weeks/yr
- Spend \$50 each time
- Customers make 40% of all gas purchases at the client's station

Interviewee should have already asked about gas station revenue (clarifying questions) and learned that gas makes up 75% of revenue (10% profit margin) and other purchases are 25% (20% profit margin). **Prompt if not: Do you think the entire purchase is gas each time?**

Math:

- $800 \text{ customers} * \$50 * 50 \text{ weeks/year} = 2M \text{ on gas per year}$
- $2M * 40\% \text{ of purchases made at client} = \$800K \text{ client revenue}$
- 75% of revenue is gas: $\$800K * 75\% = \$600K * 10\% \text{ profit margin} = \$60K \text{ profit}$
- 25% of revenue is other: $\$800K * 25\% = \$200K * 20\% \text{ profit margin} = \$40K \text{ profit}$
- **$\$60K + \$40K = \$100K \text{ profit per year}$**



QUESTION 2

How profitable would the convenience store be on an ongoing basis?

Information on convenience store:

Gasoline customers will spend an additional \$20 at the convenience store per purchase, but will not increase frequency of purchases

Recurring costs for convenience store are:

- Labor: \$75K/year
- Utilities: \$5K/month
- COGS: 50% of revenue

ONLY PROVIDE IF ASKED: 50% of town population who currently are not customers (the remaining 1200 non-customers, not just the 80% car owners) will spend \$5 per week at the convenience store

Math:

- Revenue – existing customers:
 - 800 customers * 50 weeks * 1 purchase/week * 40% purchases made at our gas station = 16K total purchases
 - 16K purchases * \$20 = \$320K addl revenue
- Revenue – new customers:
 - 1200 non-customers * 50% * \$5 per week * 50 weeks = \$150K
 - **Total revenue: \$320 + \$150 = \$470K**
- Costs
 - COGS: \$470K revenue * 50% = \$235K
 - Labor: \$75K
 - Utilities: 12 months * \$5K = \$60K
- Profit:
 - **\$470K - \$235K - \$75K - \$60K = \$100K/year**



QUESTION 2B

Given that, what is the NPV of opening a gas station?

Interviewee should ask for:

- Up-front investment cost: \$1M
- Client's Discount rate: 10%
- Town population growth rate: 0%
- Expected life: perpetuity

Calculation:

- \$100K annual profit/10% discount rate = \$1M
- Investment cost of \$1M
- NPV = 0



QUESTION 2C

What does the NPV of 0 mean for our client?

A strong interviewee would have moved to these insights after calculating that $NPV = 0$. If not, prompt with this question.

The interviewee can provide a recommendation either for or against the convenience store as long as it recognizes the $NPV = 0$ and is backed up by logic.

Possible Answer:

For investment:

- Diversification
- Gain new customers who may start purchasing gas/potentially increase frequency of visits of current customers to store

Against investment:

- NPV of 0
- Could be even worse in reality
- High investment cost



QUESTION 2D

What happens to the NPV if a convenience store competitor enters the market?

The interviewee should recognize that a competitor entering the market would make the situation less attractive for our client.

Should also mention that a competitor likely has a 0 NPV at best given our client is an established brand in the market with an established customer base, so it seems unlikely that a competitor would want to enter.

Strong interviewees could take initiative to discuss ways to improve NPV if a competitor enters the market.



QUESTION 3

The client also asked us to provide him with a list of things to consider in this decision. What would you tell him?

Looking for a qualitative discussion of things to consider; a balanced answer will indicate both potential benefits and threats to widening the client's business.

The interviewee can ask for a minute to brainstorm; a strong interviewee will have a structured approach

Possible answer:

Current Customers

- Greater convenience
- Higher revenue
- Increasing frequency of visit
- Longer wait times

New Customers

- Converted to buy gasoline
- Potential to attract customers from other cities

Competition

- New entrants
- Supermarkets/restaurants/other similar offerings
- Differentiate with week/night hours or something similar

Other

- Is there enough space to add a store?
- Are there any regulatory issues?



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Copier Co.

Boston Consulting Group | Round 1 | Information Technology

COPIER CO.

Boston Consulting Group | Round 1 | Information Technology

Prompt:

Copier, Co. is a national distributor of office equipment, particularly commercial-grade copiers. The firm sells the equipment directly to companies for use in their offices, as well as provides regular service including maintenance, repairs, and replacing disposable parts. Recently, the company has experienced declining profit margins; we have been hired to determine why this is happening and what to do to reverse the trend.

Clarifying Information:

Note: Provide this only if corresponding questions are asked

Sales Process—The company actually bids on contracts; contracts are typically awarded to the lowest bidder. The bid consists of a per copier cost which includes 1 year of maintenance as part of sales price. Salesmen have free reign to determine bid price and are compensated based on commission (% of overall sales)

Competition—One major competitor (American Copiers), but a new, low-cost competitor (Bottom Dollar Copier) has recently entered the market. These three companies are distributors and service technicians, NOT manufacturers.

Product—This case will focus on one identical copier sold/distributed by multiple firms



BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about a challenge you set for yourself and then accomplished.

2. What do you want to get out of a consulting experience?



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

Profit:

- Revenue:
 - Volume: # copiers sold/contracts awarded
 - Price: Avg. copier sale price/bid price
- Costs:
 - FC: Sales force (base), warehousing, overhead
 - VC: Service/labor costs, COGS, transportation, sales force (commission)

Non-Financial:

- Competition:
 - Size and share of competitors (AC, BDC), bidding process
- Product:
 - Product quality and characteristics
- Customer:
 - Changing customer preferences, different markets
- Company:
 - Salesforce compensation, product mix

How to Move Forward:

To get to the next portion of the case:

The candidate should ask for data related to revenue and costs to help determine why profitability is declining. Let the candidate probe until they ask for information regarding unit price and copier quantity. Then, show them Exhibit 1 and ask for reactions.



EXHIBIT 1

Copiers in Order vs. Bid Price for Copier Co

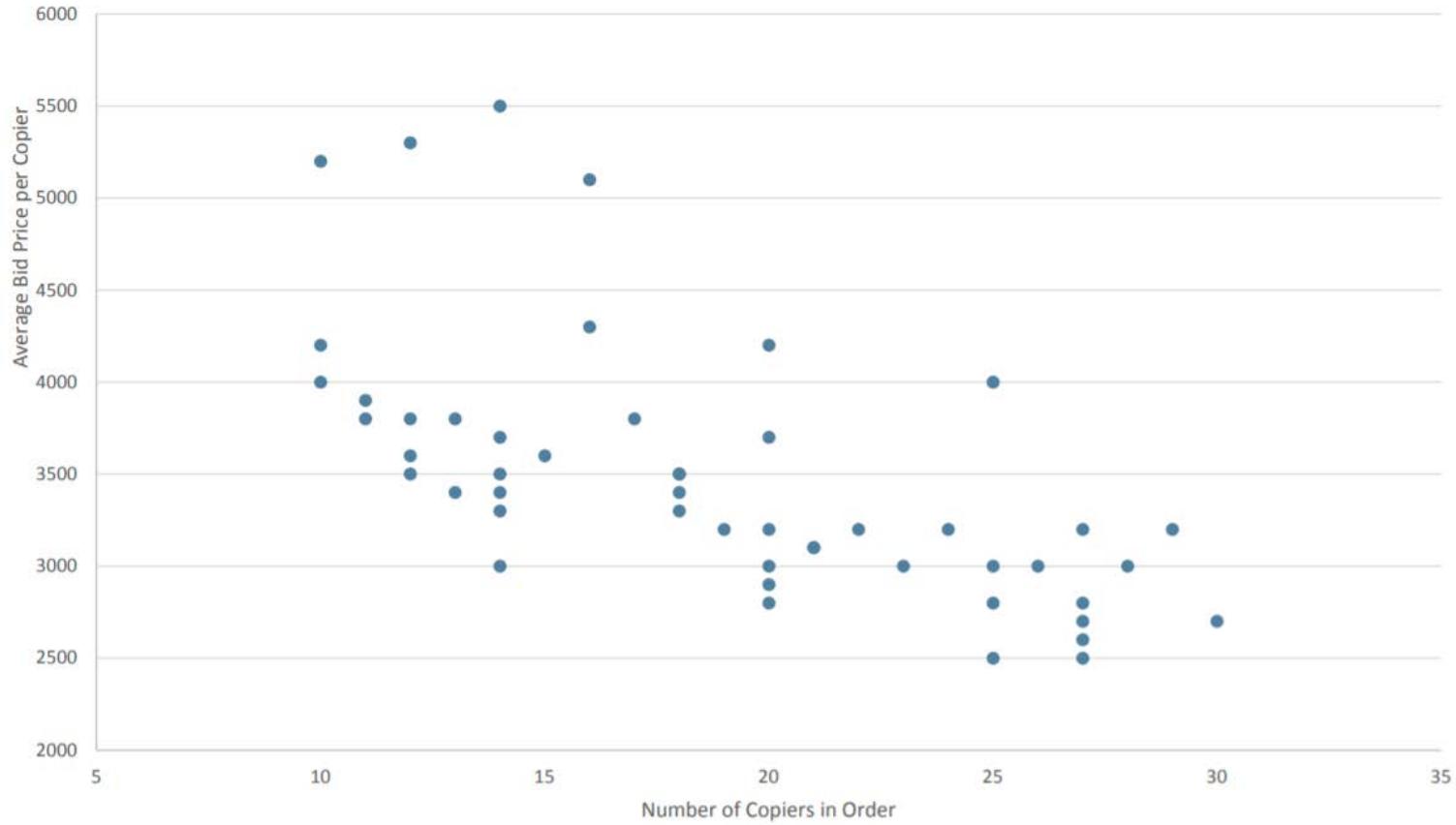


Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1. This is where you insert question and the answers to the question

- **Good Response:** Candidate should realize that there is a negative correlation – the more copiers in the contract, the lower per copier bid price (price wars for more contribution). A candidate should hypothesize why that may be so – perhaps the salespeople may be lowering bid price in effort to increase commission (due to higher sales from larger quantity contracts) or looking to increase overall profit while overall margins are smaller.
- **Great response:** Candidate should point out that there are a few contracts with high bid prices. With the information about the new competitor in hand, candidate should ask for information for average sales price based on the competitors for the contract.

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

- Information for average sales price based on the competitors for the contract



EXHIBIT 2

Copier Co. Successful Bid Info

	Competing against American Copier ONLY	Competing against Bottom Dollar Copier ONLY	Competing against both AC and BDC
Average bid price	\$5,000	\$4,000	\$3,000
Average copiers in order	20	25	30
Cost of copier	\$3,000	\$3,000	\$3,000
Service cost* (per page printed)	\$0.05	\$0.05	\$0.05
Average pages printed per copier (per month)	1,000	1,000	1,000

* Service for 1 year included



Math Guidance:

	Competing against American Copier ONLY	Competing against Bottom Dollar Copier ONLY	Competing against both AC and BDC
Contribution per copier	\$2,000	\$1,000	\$0
Service cost per copier	\$600	\$600	\$600
Profit per copier	\$1,400	\$400	(\$600)
Total profit	\$28,000	\$10,000	(\$18,000)



Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1. This is where you insert question and the answers to the question

The candidate should start by determining profit for bids against American Copier only – if he/she does not immediately begin the profit calculation, prompt them to do so. Common pitfalls will be failing to realize the pages printed are provided in months (needs to multiply by 12 months to get annual) and that service is only included for a year.

After the candidate calculates profit for bids against American Copier, ask them whether the other bidding scenarios are profitable. If candidate begins to lay out the math, ask them to just answer without doing the entire extent of the math.

How to Move Forward:

- **Good response:** Candidate should recognize that bids against BDC are profitable (but less so) and that bids against all three competitors are generally not profitable, **due to a contribution margin of zero**. A good candidate would do profit calculations on a contribution basis (rather than total revenue and cost).
- **Great response:** Candidate should transition into possible solutions to the problem.



BRAINSTORM

Have the candidate brainstorm solutions to the low bid issue.

Don't allow the candidate to stop with "don't bid on contracts with all three competitors." Let them know that the firm's management wants to bid on all contracts and they need to come up with creative solutions to solving the profitability problem in those scenarios.

Possible answers include:

- Minimum allowable bid prices for sales people
- Change compensation structure
- Offer different packages (no service component, multi-year service contracts)
- Negotiate better pricing for copiers
- Offer complementary products to copier sales (paper, other equipment, etc.)
- Joint venture with competitors on large orders



CONCLUSION

The CEO is anxiously awaiting your analysis and recommendation – what answers do you have for Copier Co?

To conclude, the interviewee should provide the following:

Summary

- Succinctly identify that the new competitor and commission-based compensation structure is resulting in lower bid prices and thus lower margins.

Recommendation:

- One or two actionable solutions from brainstorming

Risks

Next Steps



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ____ / 15

Communication: ____ / 10

Behavioral: ____ / 15

Total Score: ____ / 40

Total Time: ____ : ____



Maxicure

McKinsey | Round 1 | Industrials/Manufacturing

MAXICURE

McKinsey | Round 1 | Industrials/Manufacturing

Prompt:

Your client, Maxicure, manufactures and sells an over-the-counter cough and cold medicine. Their sole plant in Kentucky is aging, and its increasing maintenance costs are leading to low margins on their products. How would you advise Maxicure proceed to solve this problem?

Clarifying Information:

Note: Provide this only if corresponding questions are asked

- There are 2-3 larger players in this over-the-counter business who have distribution across the country. Maxicure is one of them.
- Maxicure sells all of its products in the US
- Objective is to reduce production costs while maintaining product quality (cost, quality and brand image all matter to customers).



BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about an ethical dilemma you have faced.
2. Did you like your previous job? Why or why not?



QUESTION 1

What options does Maxicure have for purposes of tackling this problem, and what factors would you consider in deciding which options to choose?

Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

Options/Considerations	Refurbish	Rebuild, same site	Rebuild, new location	Outsource
Investment cost				
New per unit cost				
Financial/non-financial benefits				
Effect on quality				
Opportunity to improve tech/capacity				
Proximity to distribution centers				



QUESTION 2

Maxicure has narrowed down its decision to 2 options: (1) build a new facility next to the old plant, or (2) outsource the manufacturing to a competitor. With the information given below, how many bottles of medicine would Maxicure need to sell for the in-house option to be more profitable than the outsourcing option?

Data:

Candidate should ask for the following in order to answer the question:

- Selling price per bottle: \$4.50
- In-house:
 - Initial investment: \$50M
 - Total cost per bottle: \$2.00
- Outsource:
 - Total cost per bottle (first 20M bottles, regardless of total order size): \$2.25
 - Total cost per bottle (bottles after the first 20M, regardless of total order size): \$2.50



Question 2 Guidance:

- Margin in-house: \$2.50
- Margin outsourced: \$2.25 <20M and \$2 >20M
- Let's say Maxicure needs to sell x bottles to make the two options have equal margins
- In-house margin = $2.5x - 50M$
- Outsource margin = $(x - 20M) * 2 + 2.25 * 20M$
- Setting the profits as equal: $2.5x - 50M = ((x - 20M) * 2) + (2.25 * 20M)$
- $X = 110M$ Units

Note: After the calculation, push the candidate to select an option and give reasons why.



QUESTION 3

Maxicure has decided to build a new production facility, but it wants to build the plant in Indiana instead to be closer to a major distribution center. How should it convince the governor of Indiana to offer Maxicure the necessary tax breaks to make the move more profitable for the firm?

Question 3 Guidance:

Note: There are many acceptable answers. The following are just examples.

- More tax collection for the state, stimulating the economy
- More job creation
- Good press for the governor
- Attract other manufacturers to the state
- Suggestions to conduct community-building initiatives like building schools, parks, etc.



CONCLUSION

What is your final recommendation for the client?

To conclude, the interviewee should provide the following:

Summary

- Recap the objective and important data and insights from the case

Recommendation:

- Make a recommendation about how the client should approach building the new production facility

Risks

Next Steps



QUESTION 4

What is your final recommendation to the client?

Conclusion Guidance:

A strong response should include the following:

Summary

Recommendation, with 2-3 supporting, data-driven pieces of evidence

Risks

Next Steps

Restatement of recommendation



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

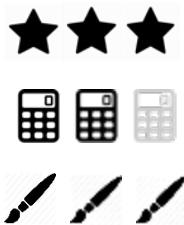
Total Score: ___ / 40

Total Time: ___ : ___



To Automate or Not

BCG | Round 2 | Operations



TO AUTOMATE OR NOT

BCG | Round 2 | Operations

Prompt:

After returning from a trade show, the CEO of a large grocery distribution center calls you. He enthusiastically describes a new technology which could be used to automate part of his company's process. He asks whether you think this would be a good idea for his business. Knowing that this CEO is a tech-enthusiast who loves innovation for the novelty of it, you ponder the implications. How would you tackle this problem?

Clarifying Information:

- The company does not have a specific goal in mind with this decision. This CEO trusts us and will do whatever we advise. This is to test the candidate's business judgment.
- Shipments are made to roughly 50 grocery stores in the immediate area, and the company does 1M shipments per year
- Costs to automate – (1) one-time outlay of \$4M, plus (2) recurring OH, training, and additional maintenance costs of \$1.0M (make the candidate request BOTH pieces of info)
- The candidate should visualize the distribution process (i.e. receiving, holding & picking, shipping) to think through this question

BEHAVIORAL INTERVIEW QUESTION:

1. Tell me about a time where you made a mistake. What lessons did you learn?
2. What are three words that your learning team would use to describe you? Why?



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

A strong framework could include:

Revenues

- Strong candidates will recognize that this is primarily a cost issue
- The company is not experiencing capacity issues and is satisfying customer demand, so optimizing the distribution process will not result in additional revenues

Costs

- Existing
 - Fixed Costs, Rents/Mortgage/Leases, Overhead, Salaries
 - Variable – Hourly employees, repairs& maintenance, inventory holding, shipping
- Incremental
 - One-time – Initial cost of automating, cost of initial training, downtime (there is none), severance pay for any employees terminated, etc.
 - Ongoing – Servicing, repairs, additional costs of running upgraded facility (i.e. energy, insurance, etc.)

Product

- Considerations around changes to product quality (there are none)
- Ability to distribute additional types of product, etc. (none)

Other

- Potential for future synergies (i.e. could the new technology interface with other future tech)
- Impact on relationships with employees, grocers, and/or suppliers



Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

A strong framework could include:

Guidance:

- If the candidate hasn't already visualized the process flow for a distribution center, press them to do so.
- After they've conceptualized the company's business tell them that the 3 phases of the company's distribution process are 1) Receiving, 2) Holding & Picking, 3)

Shipping Brainstorm:

- Move them into brainstorming exercise around the potential costs associated each phase:
- *Potential examples: Labor (time), equipment (forklifts, etc.), insurance, storage (i.e. cold and dry)*
- After the interviewer is satisfied with the depth and breadth of the brainstorming, provide Exhibit 1



EXHIBIT 1

Receiving

2,000 hrs.

Holding & Packing

10,000 hrs.

Shipping

3,000 hrs.



Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1. This is where you insert question and the answers to the question

- After confirming their understanding of the process flow, candidates should focus in on the total time required for the existing process
- Candidates should attempt to quantify the hours in terms of dollars of cost for each area of the process
- Info to provide upon request:
 - Each employee works 40 hours per week
 - Employee pay per hour is as follows: Receiving - \$12/hr, Holding & Picking - \$17/hr, and Shipping - \$14/hr
- Once they obtain the above info, ask the candidate to calculate the total number of employees required in each function and the annual cost of labor (NOTE – Force them to use 52 weeks instead of 50 weeks)

	Total Hours	# Employees Required	Cost per Hour	Cost per Week
Receiving	2,000	50	\$12.00	\$24,000
Holding & Packing	10,000	250	\$17.00	\$170,000
Shipping	3,000	75	\$14.00	\$42,000
x 52 weeks / yr.				\$236,000

- After doing the calculations to the right, strong candidates will want to see how automating the process would change the data in exhibit 1
- Provide exhibit 2 when they ask for that info



EXHIBIT 2

Receiving

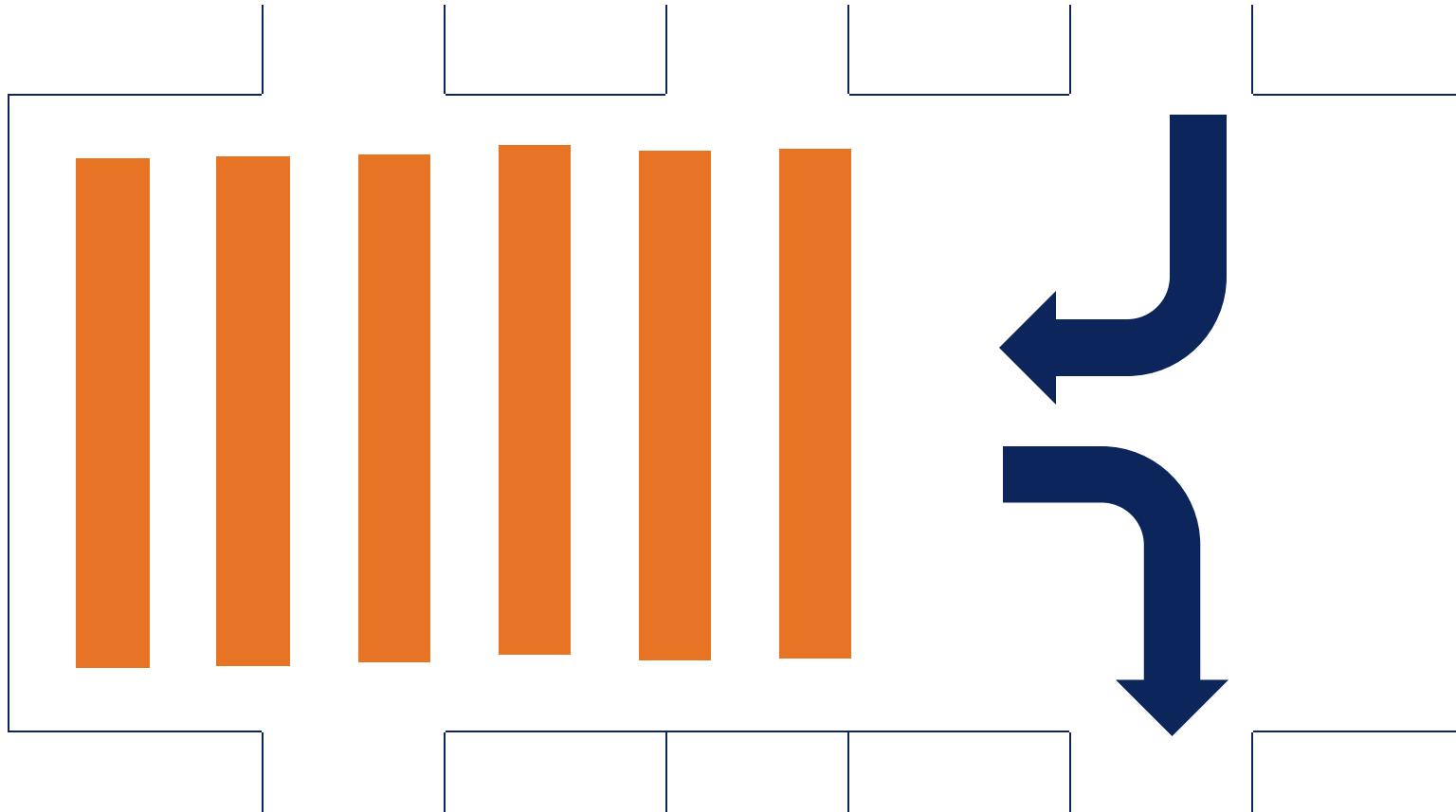
2,000 hrs.

Holding & Packing

5,250 hrs.

Shipping

6,000 hrs.



11 | CASES: TO AUTOMATE OR NOT

Math Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 2. This is where you insert question and the answers to the question

- Once they obtain the above info, ask the candidate to calculate the change in the # of employees required in each function and the change in the annual cost of labor

	Total Hours	# Employees Required	Cost per Hour	Cost per Week
Receiving	2000	50	\$12.00	\$24,000
Holding & Packing	5250	131.5	\$17.00	\$89,250
Shipping	6000	150	\$14.00	\$84,000
		x52 per Yr.		\$197,250
				\$10,257,000

Current	Automated	
# Employees Required	# Employees Required	Change
50	50	0
250	131.25	119
75	150	-75
	Employee Decrease	44

Current Costs: 12,272,000

New Costs: - 10,257,000

Annual Savings: 2,015,000



Math Guidance:

- Strong candidates should revert to the prompt and answer the initial question posed. This requires the candidate to compare the annual cost savings to the costs of automating.

Question 3:

- Ask the candidate to calculate a break-even in years for this investment:

Annual Savings	\$2,015,000
Annual Incremental Costs	\$1,000,000
Annual Incremental CM	\$1,015,000
One Time Outlay	\$4,000,000
Break Even Years	3.9

Ask the candidate whether a break-even of 5 years seems attractive

- There is no correct answer, and the Company does not have any policy on such matters. This should be used as an opportunity to test the candidate's business sense.
- Attentive candidates will consider the attractiveness of this payback period in light of the prompt. For example, if the CEO is potentially interested in the technology simply because of his love for innovation, would he really be willing to tie up his firm's cash for 5 years?



CONCLUSION

Recommendation:

- “The CEO is about to call you to ask for your recommendation. What would you say?”
- A strong recommendation will include:
 - Bottom Line – Automate or Do not automate
 - 2-3 Supporting Reasons
 - Risks pertaining to the bottom line
 - Next steps
 - Recommendations should be rooted in the prompt and should include numbers/data



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___



Rubber Bumper

McKinsey | Round 1 | Manufacturing

RUBBER BUMPER

McKinsey | Round 1 | Manufacturing

Rubber Bumper Co is a small family owned producer of rubber products. It prides itself on producing a limited range of products but producing the highest quality on the market. In general, new products are introduced after much deliberation and careful market study. The company has recently appointed a new President who noticed decreasing profits over the last couple of years.

(See the next page for Framework directions)

Clarifying Information:

Note: Provide this only if corresponding questions are asked.

What type of products do they sell? The company only sells two products; rubber bands and condoms

Is the company seeing similar declines in topline sales? Topline sales have remained relatively stable over the last 3 years

What is Rubber Bumper's market position? Rubber Bumper is the market leader in both of their product industries



BEHAVIORAL INTERVIEW QUESTION:

1. Why do you want to pursue a career in Consulting?
2. (Optional)

Framework Guidance:

Note: There are many possible alternatives to this framework. These are only provided as possible suggestions.

Rubber Bumper Co has hired our firm to fix the decline in profits. What are all of the areas that need to be examined in order to identify any major issues that should be a priority?

How to Move Forward:

To get to the next portion of the case, the interviewee should ask to explore:

Expected Analysis: There are a number of possible frameworks for this question. A good answer will cover all areas you'd expect: **industry trends, margins, product mix, competitors, etc within reason. Generic frameworks are inappropriate.**



EXHIBIT 1

Rubber bands sold each year (millions of pounds of rubber)							
	2011	2012	2013	2014	2015	2016	2017
Rubber Bumper	4	3	3	2.5	2.5	2.5	2
Max Rubber	17	19	21	21	22	23	24
Others (8)	9	9	8	7.5	6.5	4.5	5
Total	30	31	32	31	31	30	31

Condoms sold each year (millions of condoms)							
	2011	2012	2013	2014	2015	2016	2017
Rubber Bumper	1	2	5	10	10	10	10
Spartan	100	110	108	115	117	115	115
Durable	150	155	152	158	159	165	170
Others (15)	99	93	105	107	119	130	155
Total	350	360	370	390	405	420	450



Exhibit Guidance:

The interviewee should notice and verbally acknowledge the following in Exhibit 1. This is where you insert question and the answers to the question

Question 1: The team decided to look at the product mix and their industry wide positions. The company only has two products: rubber bands and condoms. The analysts on our team compiled these two tables. (Display Ex. 1). What does this tell you?

How to Move Forward:

Expected Insights:

1. The rubber band market is flat whereas the condom market is showing strong growth in the United States
2. The dominant player in the rubber band industry is gaining more and more market share
3. While the condom industry is growing (30% from 2005 to 2011) the major competitors are not growing as fast (~15% each).
4. The condom industry is more fragmented than the rubber band industry, and the smaller players are getting a larger proportion of the market

Commentary:

The candidate should ultimately start to see that the rubber band industry is becoming less attractive and the condom industry is showing growth and the major market players are not keeping up with the growth. A great response will automatically want to see why Rubber Bumper's condom growth has tapered off while the industry keeps expanding. If they do not get to that issue, prod them until they do.



Question 2: Rubber Bumper Co has two factories, each producing one of their two products. They essentially do not share any fixed costs and for the most part are run as separate P&L's. The team would like you to put together a quick summary and compare the financial profitability of each of the two factories for the most recent year.

Rubber Band Factory

- They make boxes of 500 rubber bands that they sell to retailers for \$20 a box
- 1 pound of rubber makes approximately 125 rubber bands
- They should already have the amount of rubber they used from the exhibit
- The rubber band factory has an inclusive \$4MM in annual overhead
- **[ONLY PROVIDE WHEN ASKED]** It costs \$1 to turn a pound of rubber into a pound of rubber bands (assume no waste)

Condom Factory

- They sell 4 packs of condoms to retailers for \$3 a pack
- Their factory is smaller than the rubber band factory and only costs \$2 MM in annual overhead, inclusive of everything
- **[ONLY PROVIDE WHEN ASKED]** Each condom costs \$0.10 to make



Expected Calculations: (Question 2)

Students may get tripped up because one starts with the number of condoms, and the other starts with the amount of pure rubber and need to infer the number of bands sold. (rb = rubber band):

- $2\text{MM lbs of rubber} \times 125\text{rb's/lb} = 250\text{ MM rb's}$
- $250\text{MM rb's} / 500\text{ rbs/box} = 500\text{K boxes} \times \$20\text{ box} = \$10\text{MM in Revenue}$
- $2\text{MM lbs of rubber} \times \$1 = \$2\text{MM in variable costs}$
- $\text{RB Profit} = \$10 - \$2 - \$4 = \4MM in profit
- $10\text{ MM condoms} / 4\text{ pack} = 2.5\text{ MM packs} \times \$3 = \$7.5\text{MM in Revenue}$
- $10\text{MM condoms} \times \$0.10 = \$1\text{MM in variable costs}$
- $\text{Condom Profit} = 7.5 - 1 - 2 = 4.5\text{MM in profit}$

Commentary: A good answer will arrive at the math and note that the two profits are fairly comparable. A great answer will also note that the margin on the condoms is significantly higher (4.5 MM in profit for 3 MM in costs, rather than 4MM in profit for 6 MM in costs). Also, a great answer will question why the overhead for the condom factory is small compared with the rubber band.



Question 3: It turns out that the two overhead figures are significantly different because the capacity of the second factory is much smaller, about half as much. The President has asked us to evaluate whether we should switch production of the first plant to make more condoms since we have reached capacity at the smaller plant (assume a factory can only make 1 thing).

Supplementary Information

Give out the following information ONLY WHEN REQUESTED.

- It will cost \$2MM dollars to refurbish the new plant and take 1 year to complete during which time the factory will be off line. (If asked, assume there are no tax benefits from depreciating the CapEx and no cost of capital)
- Overhead would remain the same
- During this time, we won't be able to make any rubber bands
- The bigger plant can produce twice the volume of condoms as the smaller plant.
- Rubber Bumper Co's payback period for such projects is 4 years.
- Assume that Rubber Bumpers rubber band demand has stabilized at 2MM lbs per year.



Expected Calculations: (Question 3)

A bad answer will simply look at 4.5MM in profit and 4.0MM and say that Rubber Bumper should make more condoms. A great answer will look into the costs, the opportunity costs, and the payback period to evaluate whether this should go forward. Also a great interviewee will recognize the timing of the payments, and while we don't have a cost of capital there is a timeline such investments must prove profitable.

- 1 year offline they are losing $(10\text{MM} - 2\text{MM}) = \8MM in contribution
- Capital Expenditures = \$2MM
- Total Cost of Project = $8 + 2 = \$10\text{MM}$

Note we assume that overhead will be paid while the factory is offline, but it should not count as an additional cost, since we would pay that anyways.

- The benefit is the difference in profitability between the two products.
- The bigger factory can produce twice as many condoms; $6.5\text{MM} \times 2 = 13\text{MM}$
- The bigger factory is currently producing 8MM in contribution (because we are looking for the difference, the \$4MM of overhead is a wash)
- Switching will create an additional $13 - 8 = 5\text{MM}$ in profit.
- The interviewee should draw a conclusion towards the end noting that under these assumptions the project will repay itself in year 3 (1 year offline + 2 years of operation) and that it is within the required time frame. Additional second level insights are encouraged.



BRAINSTORM

What are some of the risks involved with this project?

Brainstorming Guidance

This is a “what else” section. Below are some basics but ideally you’re looking for the interviewee to be as creative as possible. As with most questions of this type, a bad answer will stop at one or two. A good answer will have a creative list. A great answer will have a structure that makes the answer MECE. A great answer should also prioritize the findings indicating which ones he thinks are the most important.

Key Points to Consider

- Assumes that Rubber Bumper can sell 3x the number of condoms it sells today, immediately.
- Assumes that rubber band demand won't rebound. The bigger plant is equally profitable because it is being underutilized
- Political parties could kill sex ed.
- Less diversification in products exposes them to increased market risk
- Condoms are not as generic of a product as rubber bands and may require a larger investment in advertising to compete on a higher level
- Potentially more legal risk in selling contraception than rubber bands
- Employees may not want to make condoms.



CONCLUSION

The President is walking in the board room and expects a summary. Please summarize your findings.

Expected Analysis

The summary should start with a recommendation. “You should convert the plant” and then back track into the reasoning: industry trends and financial justification. Finally it should mention which of the risks are the most problematic and how he would mitigate it. The interviewer should feel free to challenge any part of the conclusion and expect a well worded response.



INTERVIEWER FEEDBACK FORM

Case Execution:

- Framework
 - Logical approach
 - MECE
 - Creativity

1 2 3 4 5

Notes:

- Quantitative Ability
 - Accuracy
 - Speed
 - Analytical Approach
 - Errors / Guidance

1 2 3 4 5

Notes:

- Business Acumen
 - Insightful
 - Implementable
 - Business Judgment
 - Creative Brainstorm

1 2 3 4 5

Notes:

Strengths:

Opportunities:

Case Name _____ Interviewer _____

Case Book _____ Case Type _____ Difficulty _____

Communication:

- Presence & Non-Verbal
 - Confidence
 - Poise / Posture
 - Clear & Concise
 - Body Language
 - Coachability

1 2 3 4 5

Notes:

- Case Materials
 - Organized Page Layout
 - Recognition of Errors
 - Resource References

1 2 3 4 5

Notes:

Behavioral:

- Overall Performance
 - Quality of Answers
 - Relevance
 - Clarity & Time

1 2 3 4 5

1 2 3 4 5

1 2 3 4 5

Case Execution: ___ / 15

Communication: ___ / 10

Behavioral: ___ / 15

Total Score: ___ / 40

Total Time: ___ : ___

