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# The Duke MBA Consulting Club Casebook 2019-2020

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# Editor's Note

Welcome students:

The Duke MBA Consulting Club (DMCC) is proud to present the 2019-2020 DMCC Casebook. This year we have included 14 brand new cases. The objective of this book is to help you prepare for your upcoming consulting case interviews. Case interviews are an integral part of the hiring process for consulting firms. These interviews give you the opportunity to showcase your communication, client, creative and analytical skills to your interviewer. This book was developed to complement the Duke MBA Consulting Roadmap curriculum. We hope that using both will help lead you to success during the upcoming recruiting season.

Included are industry one pagers to give you an overview of each industry. Although we cannot prepare you for everything you might encounter during your case interviews we went to great lengths to diversify the case content. Current cases cover a wide variety of topics from healthcare to travel, across several problem types. Finally, we have included a resource page and feedback form to help you prepare and help us improve the casebook.

This casebook could not have been completed without all of the wonderful cases submitted by your classmates. We would also like to thank our friends at other MBA programs for sharing with us their old casebooks to supplement the cases herein.

We wish you luck with your preparation and would like you to remember that your fellow DMCC members are here to help! Please reach out to anyone on the cabinet if you feel that you are not "cracking the case". Lastly, to the students of other top MBA programs using this casebook during their preparation, we warmly welcome you to "Team Fuqua."

Good luck!

Francisco Ochoa and Megha Tak

The DMCC 2019 Casebook Team

# Acknowledgements

This casebook would not have been possible without the case contributions from the following second year students:

Caitlin O'Connell , Rachel Pennington-Hill, Zack Brenner, Allie Broas, Jeff Goodman, Alexandra Herrera, Swapnajeet Padhi, Kevin Rahill, Reed Romine, Brad Travis, Alan Cohen, Liz Pogue, Rachel Jacobs, Camille Botts, Amanda Keaney, Jose Barrientos

# Casebook Overview

- The first section provides key industry one pagers followed by a case table of contents and practice cases
- Qualitative and quantitative case difficulty is identified within the case table of contents; difficulty is rated as easy, medium and difficult. Medium is considered to be at the level of a typical interview case.
- Ask the behavioral questions EVERY TIME you give a case!
- Most cases are adaptable, so try to familiarize yourself with the case prior to giving it
- Print exhibits before giving the case or be prepared to share digitally (we tried to ensure that all exhibits are effective when printed in black and white, but recommend double checking your print outs to be sure!)
- **HAVE FUN!**

# Industry Overviews

# Consumer Packaged Goods (CPG)

| | |
|---|---|
| **Products/services** | CPG companies provide consumers with a range of household products such as cleaning agents, beauty products, snacks, pet foods, etc. |
| **Revenue** | Volume of goods sold; Price premium on branded goods |
| **Costs** | Sales and Marketing (branding, discounting); COGS (raw materials, packaging, and processing) |
| **Competitive landscape** (competitors, substitutes, new entrants) | Procter & Gamble (P&G), Unilever, Clorox, Mondelez, Frito Lay<br>Private label products, home remedies<br>Chobani, Casper |
| **Customers** | Walmart, Sams, Costco, Target, Grocery stores, Convenience stores |
| **Distribution channel(s)** | Wholesale to customers (Walmart, etc.)<br>Direct (limited web distribution through Amazon and others) |
| **Suppliers/ supply chain** | Supply chain varies widely by product and region; plants are owned/operated or contract manufactured |
| **Key trends** | Activist investors push cost cutting and selling non-core brands; private label growth; innovation/brand/digital is critical to fight product commoditization; direct-to-consumer movement |

# Oil & Gas

| | |
|---|---|
| **Products/services** | Products are categorized along the value chain as upstream/downstream. Upstream: oil and natural gas. Downstream: chemicals and plastics |
| **Revenue** | Volume of goods sold; Price is generally determined by global indices |
| **Costs** | Extraction costs, COGS, labor, technology and licensing |
| **Competitive landscape** (competitors, substitutes, new entrants) | Upstream: BP, Shell, Aramco, Exxon Mobil<br>Oilfield services: Schlumberger, Halliburton, Baker Hughes<br>Downstream: BASF, Dow, SABIC |
| **Customers** | Governments, CPG producers, Utilities companies |
| **Distribution channel(s)** | Wholesale to customers: in large quantities<br>Traders: in smaller quantities |
| **Suppliers/ supply chain** | Products are mostly transported in large quantities by vessels and require long lead times. |
| **Key trends** | Oil prices have been volatile over the past few years. Recent American shale oil boom, & slowdown have seen the price of oil have high variance. |

# Manufacturing

| | |
|---|---|
| **Products/services** | Includes companies in the business of mechanical, physical, or chemical transformation of materials/substances/components into new products |
| **Revenue** | Volume of goods sold; Price premium on branded goods |
| **Costs** | Process efficiency, supply chain management, labor, raw materials commodities, channel management, marketing, capital investment |
| **Competitive landscape** (competitors, substitutes, new entrants) | General Motors, Chrysler, Ford, Toyota, Honda, Boeing, Airbus, GE, Phillips, Siemens, Caterpillar, Honeywell, Dow, Corning, HP, Intel |
| **Customers** | Varies by industry and position in supply chain, can be consumers or raw goods to businesses |
| **Distribution channel(s)** | Retail to consumers (Walmart, etc.)<br>Wholesale to businesses |
| **Suppliers/ supply chain** | Supply chain varies widely by product and region; plants are owned/operated or contract manufactured |
| **Key trends** | Increased automation increasing cyclical nature, location is sector and customer dependent ("next-shoring"), TRUMP & reshoring |

# Financial Services

| | |
|---|---|
| **Products/services** | Deposit-based services, credit cards, consumer loans (personal and business), payments, insurance, mortgages, securities, private wealth management, underwriting for IPOs, retirement accounts, real estate loans |
| **Revenue** | Net revenue is the spread between bank's borrowing cost and the interest rates charged to borrowers; fees |
| **Costs** | Overhead (branches, administration, compliance); Salaries; Bad Debt Expense; Marketing |
| **Competitive landscape (competitors, substitutes, new entrants)** | Large national players (Wells Fargo, Bank of America, Citi) compete with regional banks.<br>Largest players' services extend well beyond commercial banking to investment banking, securitization, proprietary trading, etc. with services that are increasingly opaque |
| **Customers** | Individual consumers<br>High net worth consumers (priority segment)<br>Small/medium businesses without sufficient size for larger investment banking financing services; Private companies going public looking for underwriting |
| **Distribution channel(s)** | Still large face-to-face presence with bank branches, tellers, etc.<br>Increasing use of ATM services, online banking<br>Banks increasingly offer credit cards, home loans, etc. as means to increase asset base |
| **Suppliers** | Private deposits from individuals and corporations |
| **Key trends** | Consolidated, mature industry with primary growth through acquisitions<br>Demographic shift (baby boomer aging) creating large market for retirement products<br>Offshoring of various functions to reduce expenses (e.g. call centers, back office functions) |

# Healthcare (Provider)

| | |
|---|---|
| **Products/services** | Care provided to patients in doctor's offices/clinics, urgent cares, emergency departments, acute care facilities, etc.<br>Patients typically are billed for the facility fees (ex. Hospital beds, medication, etc.) as well as for physician services received |
| **Revenue** | Net Patient Service Revenue: revenue for care provided minus bad debt expense<br>Academic institutions and other health systems often receive philanthropy |
| **Costs** | Corporate shared services (Admin, IT, Finance, Legal, etc.), salaries (physician groups often contracted), pharmaceuticals, capital expenditures for large facilities, equipment, etc. |
| **Competitive landscape (competitors, substitutes, new entrants)** | Consolidation among smaller regional health systems or by acquisition of larger health systems<br>Increased emergence of Urgent Care facilities (ex. CVS Minute Clinic)<br>Decreased power from smaller organizations to negotiate favorable rates with payers |
| **Customers** | Any one in need of health care services – high costs as baby boomers continue to age<br>Specialized pediatric facilities, rehabilitation facilities, hospice care, etc. |
| **Distribution channel(s)** | Hospitals (acute care), clinics, doctor's offices, emergency departments, urgent care, telemedicine<br>Large health systems, IDNS (Investor owned), regional health systems, academic institutions urgent care facilities |
| **Suppliers** | Suppliers to healthcare providers: pharmaceutical companies, technology providers (ex. radiology equipment, healthcare IT) |
| **Key trends** | Pay for performance<br>Potential changes to reimbursement should changes be made to the to the Affordable Care Act<br>Increase in technology (telemedicine, electronic medical records, etc.) |

# Private Equity/Investments

| | |
|---|---|
| **Products/services** | Equity that is not publicly traded<br>Common forms include Leveraged Buyouts (LBOs), Venture Capital (VC), Mezzanine Capital, Distressed Investments, and Growth Capital |
| **Revenue** | Return on investments, management fees<br>Levers pulled to increase revenue: timeframe, identifying efficiencies, new management |
| **Costs** | Investment expenses, legal, technical assistance to firms, administrative expenses, travel, labor is very costly (few and highly paid employees), taxes |
| **Competitive landscape (competitors, substitutes, new entrants)** | Supply of capital greater than demand<br>Large (e.g. KKR, Carlyle, Blackstone, TPG), Mid ($250M to $5B), and Small Market PE shops |
| **Customers** | New customers of PE deals may be corporations<br>Institutional investors<br>Customers can range from small family-owned companies to large corporations |
| **Distribution channel(s)** | Leveraged Buyouts: controlling interest (of equity) is acquired through high borrowing<br>Venture Capital: investors give cash in exchange for shares/control; typical with start-ups<br>Mezzanine Capital: financing that contains equity based options and subordinated debt (e.g. convertible loans)<br>Growth capital: financing to expand, restructure, or enter new markets with little change in management<br>Distressed Investments: investing in financially stressed companies |
| **Suppliers** | Private investors, large corporations, foundations |
| **Key trends** | Larger amounts of equity required for each deal,<br>Startup financial performance not always meeting high valuations<br>Health care and tech are seeing most of the activity<br>Buying and selling of current PE commitments likely to increase over the next few years<br>Growing need for PE firms to have cash margins |

# Pharmaceuticals

| | |
|---|---|
| **Products/services** | Brand name/originator drug manufacturers produce original patent-protected (for a certain period of time) drugs for human and animal diseases. Generic drug producers produce 'copy-cat' drugs (with the same medical result) at a lower development cost when the originator drug's patent expires. |
| **Revenue** | Size of specific treatment area / level of competition; Buy-in from doctors that will prescribe; Speed to market (1st to market is important)/ expertise in difficult products (for generics). Dosage and frequency of drugs can alter revenue. Revenue can come directly from patients, but most is received from third party insurers) |
| **Costs** | VC: sales and marketing (doctor visits, sponsored studies); FC: R&D (drug discovery, formulation, clinical trials; a lot of this is now outsourced; generic companies only need to perform clinical trials and are therefore fast to come to market once a patentexpires) |
| **Competitive landscape (competitors, substitutes, new entrants)** | Success contingent on drug effectiveness, adoption/buy-in from doctors, coverage approval from private and public insurers, patient adherence and ease of use. Products compete within various treatment areas (T): cancer, cardiovascular, psychology etc. US, Europe and Japan are largest markets although emerging market opportunity (eg. China, India, Brazil) is growing. In the US, the Food & Drug Authority (FDA) needs to approve all drugs before sale. Generic drugs are treated as substitutes and usually receive more favorable reimbursements by insurers. |
| **Customers** | Doctors who prescribe thesemedicines<br>Insurance companies that pay for them (i.e. private insurers, Medicare (over 65), Medicaid (low-income/disabled)<br>Patients/consumers who need these drugs/medicines<br>In some emerging markets officials (provincial and central government) may control channelaccess |
| **Distribution channel(s)** | Over the counter ("OTC", can be sold without prescription); Retail outlets – CVS, Walgreens; Mail order/online; hospitals; pharmacies; doctor's offices; B2B: Distributors/intermediaries |
| **Suppliers/ supply chain** | Drug manufacturer ➐ Drug wholesaler/distributor ➐ retailer/pharmacy/doctor's office/hospital ➐ patient |
| **Key trends** | Price competition from generic drug manufacturers. Increasing pressure from health insurance companies and hospitals to reduce prices. R&D challenge of finding high revenue drugs ('Blockbusters' have annual sales > $1B). Weaker investments in R&D in recent years. Loss of patent on key drugs for many large pharma companies, especially for specialty biologic drugs in the next 5 years |

# Airline

| | |
|---|---|
| **Products/services** | Air transportation for passengers and cargo |
| **Revenue** | Ticket sales, baggage fees, food and beverage sales, freight fees, new classes (Economy Plus as well as Economy "Basic") |
| **Costs** | Fuel, food and beverage, ground crew, air crew, aircraft lease/payments, airport fees, IT/admin fees, frequent flier program fees, marketing and sales, offices, hangars, INSURANCE. |
| **Competitive landscape (competitors, substitutes, new entrants)** | Legacy carriers (Delta, United, American, Lufthansa, Air India, British Airways) compete with each other and are also competing with low cost carriers (Southwest, Allegiant Air, Frontier Airlines, Eurowings, Gogo Air). New entrants are more common in the low cost model. Barrier to entry include available gate space / airport leasing agreements and extremely high startup costs. |
| **Customers** | Individual passengers, corporate travelers, travel agents/websites, freight/cargo shipping companies. |
| **Distribution channel(s)** | Direct from the airline (website, at the airport, over the phone), travel agents (website, in person, over the phone), through other providers as a bundle (cruise and flight bundle, hotel and flight bundle etc.), increasing number of tickets sold through trip aggregators (Kayak, Priceline, etc) |
| **Suppliers/ supply chain** | Aircraft manufacturer, avionics manufacturer, aircraft leasing companies, fuel providers, airport operators, flight training providers, catering providers, aircraft maintenance providers |
| **Key concepts** | Metrics: **Available Seat Miles** (Total # seats available for transporting) * (# miles flown in a period), **Revenue Passenger Mile (RPM)** = (#Revenue-paying passengers)*(#miles flown in a period**), Revenue per Available Seat Mile** = (Revenue) / (# seats available), **Load Factor** -- % of available seating capacity which is actually filled with passengers |

# Media

| | |
|---|---|
| **Products/services** | Media sector includes print, audio and video content generation anddistribution. |
| **Revenue** | Advertising is a key revenue driver, additional revenue sources are subscriptions, one-time purchases (video on demand, DVD purchase), licensing fees. For online portals (NetFlix, Hulu, etc.) the key value driver is **content**. |
| **Costs** | Production costs (salary, technology, location fees etc), distribution costs, marketing and advertising, promotions, capital costs (studios, equipmentetc.) |
| **Competitive landscape (competitors, substitutes, new entrants)** | Highly competitive with a few major players owning most of the market. Fight over content exclusivity is a big issue among legacy players (Netflix, Hulu) and content providers (Disney etc.). Traditional cable companies getting hurt by these web-based solutions. |
| **Customers** | Individual viewers are part of the product for most ad-revenue driven models. The main customers there are the advertising companies. For subscription based models, the end viewer or consumer of the content is thecustomer. |
| **Distribution channel(s)** | Online streaming is the fastest growing channel, tradition distribution through retail outlets still exists. Additional distribution through theaters and other 'live' events. |
| **Suppliers/ supply chain** | Technology providers (particularly internet service providers are becoming key in allowing high speed streaming), actors, artists and musicians |
| **Key trends** | Online streaming and cord cutting is changing the industry. There is a large focus on creating and controlling content. Companies such as Netflix and Yahoo are starting to create original content to remain competitive |

# Technology

| | |
|---|---|
| **Products/services** | Broad industry consists of PCs, servers, semiconductors, internet service providers, communications providers and equipment, IT services, software and application development, and internet companies. Is part of every industry |
| **Revenue** | Varies by type of product. For PCs revenue is primarily from sales of PC and also from support, for internet mobile applications revenue is driven by clicks on ads. IT services revenue is tied to staff utilization per employee. |
| **Costs** | Costs vary by the product, for software the initial R&D cost is high but the marginal cost for production is negligible. For PCs and servers input costs include component costs, labor costs, distribution and support costs. Semiconductors have high fixed costs. |
| **Competitive landscape (competitors, substitutes, new entrants)** | Few large competitors in the PC and server space, many competitors in the software and application development space. Internet companies have low barriers to entry and thus a highly competitive environment; acquisitions of smaller players are common by the internet giants. |
| **Customers** | Varies by product: ranges from individual customers and corporations to companies looking for advertising channels. Internet companies tend to be B2C (ad click revenue), while companies such as IBM, Oracle, Cisco focus on B2B. |
| **Distribution channel(s)** | Distribution through retail outlets and B2B channels for hardware, online distribution through app stores/ websites for software. Limited distribution of software through physical media |
| **Suppliers/ supply chain** | For hardware: various suppliers include raw material providers, semiconductor manufactures, machine and technology providers<br>For software: supply chain includes software testing houses, distribution through 3rd party such as app store |
| **Key trends** | Acquisition of talent and technology by established industry players. Freemium and ad-driven revenue models for software. New technologies entering the business segment: Internet of Things, cloud computing, big data (predictive) analytics, mobile (computing everywhere), 3D printing, machine learning. |

# Resources & Feedback (TBD)

## Fuqua Casing Resources

•Prior DMCC and other schools' casebooks are accessible at:

https://orgsync.com/117005/files/807678

•Included in this year's book is a case from BCG and on OrgSync cases from PWC. In prior years other firms have provided sample cases. Please refer to older Fuqua casebooks for these examples, which are reflective of actual case interviews.

## Feedback

•Every year, DMCC prepares a casebook for Fuqua students. Many of these cases are new and therefore may still have small edits or areas for improvement. Your feedback is welcome on any case and is particularly helpful for next year's casebook team.

• To submit feedback, please fill out this form: https://tinyurl.com/yc5kbwj8

# Case List

| Case# | Name | Industry | Case Type | Qual | Quant |
|---|---|---|---|---|---|
| 1 | Blockbuster Biosimilars | Healthcare | Growth Strategy | Difficult | Easy |
| 2 | Shop ‘til you(r profits) drop | Retail | Profitability | Easy | Medium |
| 3 | Queen Bae | CPG | Growth Strategy | High | Medium |
| 4 | Nautical Nonsense | CPG | Growth Strategy | Medium | Easy |
| 5 | ICEAP | Healthcare | Investment Decision | Medium | Medium |
| 6 | PSG over the sky! | Banking | Growth Strategy | Medium | Medium |
| 7 | Fuqua Equity Partners Considers Skincare Solutions | PE | Market Size | Medium | Low |

# Case List

| Case# | Name | Industry | Case Type | Qual | Quant |
|---|---|---|---|---|---|
| 8 | Upper Goes South | Technology | Market entry | Medium | Medium |
| 9 | High Strung | Entertainment | Profitability | Difficult | Medium |
| 10 | Consulting Impact Consulting | Consulting | Profitability | Difficult | Difficult |
| 11 | A B-e-a-utiful Case | Consumer Goods | Growth Strategy | Medium | Medium |
| 12 | Telco Towers | Telecommunications | Growth Strategy | Medium | Easy |
| 13 | To Port or not to Port | Consumer Goods | Go / No Go | Difficult | Medium |
| 14 | Don’t Break the Bank | Financial Services | Revenue Maximization | Medium | Difficult |

# "Greatest Hits" Case List

| Case # | Name | Industry | Qual | Quant |
|---|---|---|---|---|
| 15 | Activist Action ('15-16) | Consumer Products | Difficult | Difficult |
| 16 | Goodbye Horses ('16-17) | Healthcare | Difficult | Medium |
| 17 | Sardine Airlines ('16-17) | Transportation | Medium | Medium |
| 18 | Fringe Science ('17-18) | Healthcare | Difficult | Medium |
| 19 | Congo's Drumming ('17-18) | E-Commerce Operations | Difficult | Medium |

# Blockbuster Biosimilars

**Industry:** Healthcare
**Case Type:** Growth Strategy
**Led by:** Interviewee
**Quantitative Level:** Medium
**Qualitative Level:** High

# Behavioral Questions

| Question 1: |
| --- |
| • Tell me about a time that you had to convince someone senior in your organization. |

| Question 2: |
| --- |
| • Tell me a time that you leveraged data to make a decision. |

# Blockbuster Biosimilars

## Prompt #1:

- Your client is a multinational pharmaceutical and biologics company that specializes in innovative therapies across different disease types. The company is forecasting that biosimilars, a drug compound that is designed to have active properties similar to those of a drug that has already been licensed, will be released by a competitor within the next 12 months that will be marketed as replacements to your top grossing blockbuster drugs causing a significant loss of revenue. Your client has a long history of revenue growth, and has hired you to see how it can continue to grow.

## Case Background:

- Client/Company information
  - $50B a year in Revenue. Global Organization. **Revenue Loss is Forecasted at 5% ($2.5B a year, so that is the number we are looking for).**
- Industry/Competition information
  - Lots of Smaller/Newer Biotech companies with promising drug pipelines. The industry is shifting from blockbuster drugs generating majority of revenue to more personalized and targeted drugs with higher impact, but smaller patient population.
- Product information
  - Currently commercialize 40 drugs with a very strong pipeline. The company has products in all major disease types, but is known for its oncology drugs, and believes that oncology will continue to be the future of the company
  - We do have promising late stage pipeline that we will give more information later on in case
- Value Chain/Revenue information
  - Already in all major global markets. Large and robust manufacturing facilities regionally located in the United States
- Any constraints on the case
  - **Want the $2.5B in revenue <u>ASAP.</u>**
  - **Would like at least a 50% ROI on any acquired assets**
  - **Costs are not an issue, and should not be explored.**

# Blockbuster Biosimilars

## Framework Buckets:

- Organic vs Inorganic Growth
- Organic
  - Current Drug Pipeline
    - Timeline to launch within 12 months
  - Marketing Strategy
  - Raise Pricing
- Inorganic
  - Acquire Assets from a competitor
  - Do a joint venture with a competitor
  - Acquire small bio/pharma company
- Lead the student to see what we have in our current pipeline.

# Brainstorming

**Prompt:**

- Our client has two assets that are nearing commercialization. What would you need to know to determine how much revenue the drugs can generate?

**Analysis:**

- We are looking for the ways the student would size the market. Following this brief brainstorm, we will present #'s to the student that will help the student develop a market size. The candidate should present information such as:
- Patient population, market penetration, cost of drug per treatment, # of times to take the drug, reimbursement rates, payer mix, chance of making it to market

# Exhibit #1 *(Please Read Out the #'s; Do Not Share This Page)*

| Asset | Patient Population | Estimated Market Penetration % | Cost Per Treatment | # of Times Per Year To Take Treatment | Chance of Making it to Market |
|---|---|---|---|---|---|
| Red Pill | 1M | 10% | $5K | 5 | 50% |
| Blue Pill | 5M | 25% | $2.5K | 1 | 25% |

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- Have the student walk through these #'s. Do not show them the paper

## Analysis:

- The student will see that Red Pill has an expected value of $1.25B of revenue, while Blue pill has one of $781.25M. Together these are just over $2B.
- A good candidate will see that we need another $500M and lead the case towards other avenues of getting this.

# Brainstorming

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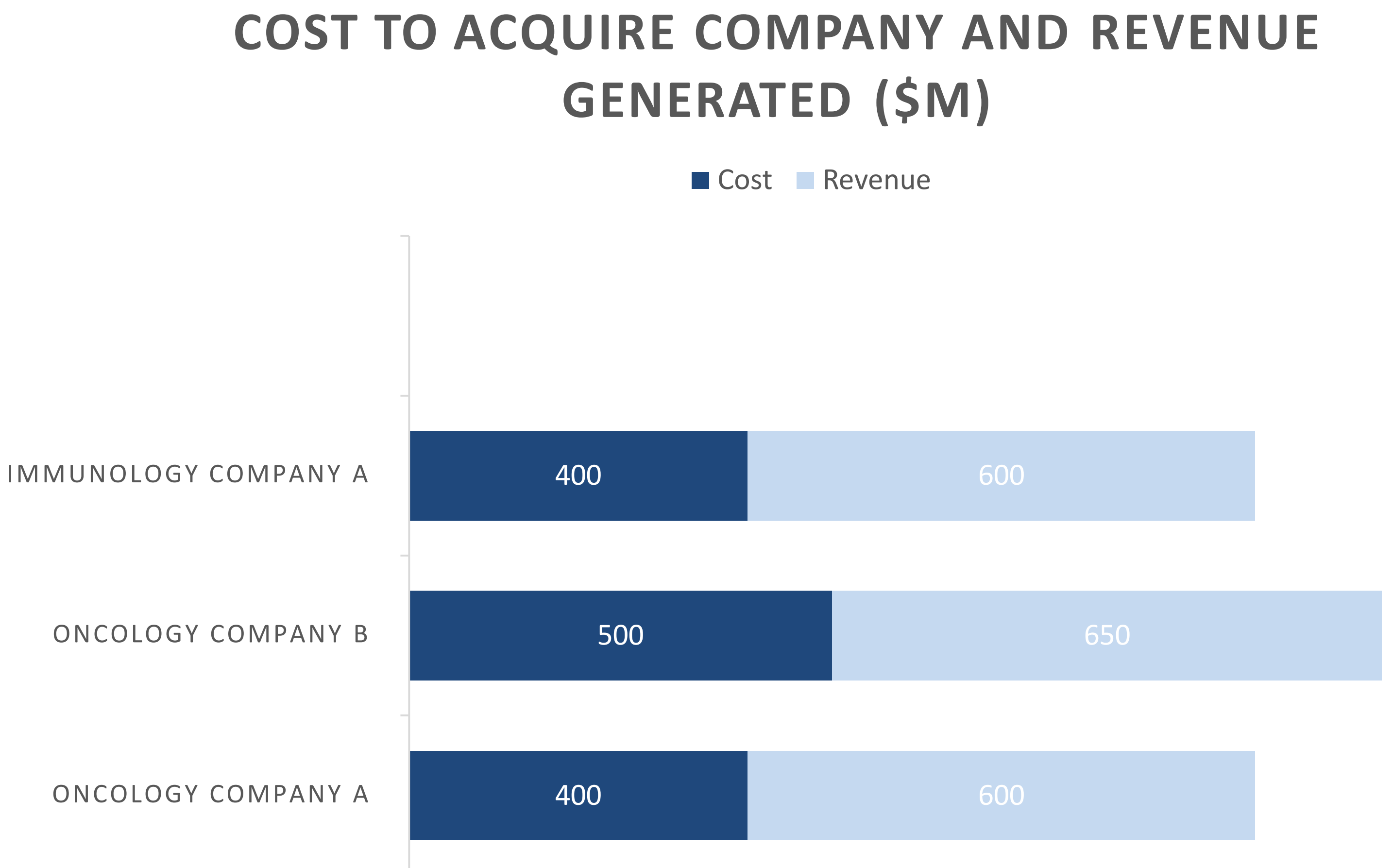
**Prompt:**

- How else can our client generate an additional $500M in revenue?

**Analysis:**

- The ultimate goal of this brainstorm is to lead our candidate to the next exhibit of acquiring new asset.
- Candidate can get creative here

# Exhibit #2



COST TO ACQUIRE COMPANY AND REVENUE GENERATED ($M)
Cost
Revenue
IMMUNOLOGY COMPANY A
400
600
ONCOLOGY COMPANY B
500
650
ONCOLOGY COMPANY A
400
600

# Interviewer guidance on Exhibits

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## Exhibit #2 Guidance:

- Our client is only looking to purchase one of these firms. Have the student tell us which of these firms they would recommend.

- Our client is looking for an immediate 50% ROI on the investment
- The Student should pick Oncology A over Immunology A. While they both have the same #'s. Our client is known for its oncology practice, and has the better expertises in that disease type.

## Analysis:

- The student will see that all 3 will get the company to its revenue goal. The student should choose Oncology A because it has the 50% immediate ROI, and it is in oncology disease type.

# Shop ‘til you(r profits) drop

Industry: Retail / Food

Case Type: Profitability

Led by: Interviewee

Quantitative Level: Medium

Qualitative Level: Easy

# Behavioral Questions

**Question 1:**

- Tell me about a time that you solved a difficult problem using data or analytical problem solving.

**Question 2:**

- Tell me about a time you faced a conflict with your direct manager or supervisor and needed to address it in order to solve a larger problem at work.

# Shop 'til you(r profits) drop

## Prompt #1:

- Your client, SaveRite, is a large grocery retailer who is under pressure from new leadership to improve historically flat profits within the company. They have come to us to help identify the source of this plateau and develop a plan to increase profitability within the company.

## Case Background:

- Client/Company information: Client operates national grocery chains, with nationwide presence and operating only in physical retail locations.
- Industry/Competition information: Growth within industry is positive. Competition not experiencing similar declines in profitability. No new players.
- Product information: No information at this time about products driving profitability problem.
- Value Chain/Revenue information: Buys food from suppliers, sells to customers.
- Timeline: ASAP.

# Shop ‘til you(r profits) drop

## Framework Buckets:

- This case is intended to be a straightforward profitability case and the framework should reflect that. The candidate should break out profitability into revenues and costs, as well as include a bucket to evaluate the market overall (even if they asked and received the information about the market and competitors in the prompt).
- For revenues, they should hone in on specifics about grocery stores, focusing on products carried, opportunities to increase foot traffic and customer bases, as well as opportunities for expansion in high traffic areas.
- For costs, they should focus on fixed costs associated with grocery stores (significant capital expenditures and rent/owning costs with physical retail presence) as well as variable costs (COGS along the supply chain, variable labor costs, etc).
- Framework can have competition and market dynamics however they are not important for this case.

# Exhibit #1

SaveRite Financial Statements

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Revenue ($M)** | $360 | $378 | $397 |
| **Expenses ($M)** | | | |
| COGS | $50 | $60 | $72 |
| Wages | $95 | $100 | $105 |
| Corp SG&A | $10 | $10.5 | $11 |
| Overhead | $40 | $42 | $44 |
| **EBITDA ($M)** | $165 | $165.5 | $165 |

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- The interviewee should be aware quickly that these are financial statements for SaveRite over the past three years, detailing the revenue, cost, and profit growth.
- No math is necessary to know increase in COGS is driving profitability issues, but is a mark of an exceptional candidate if they do it without prompting when pulling insights from exhibit.

## Analysis:

- Analysis for the exhibit to have 2 parts –
  - Basic: Revenues are growing steadily, but COGS growth YoY is much more significant than any other growth (revenue and other costs) – leading to flat profits.
  - Second order insights: Revenues are growing by 5% YoY, as are the majority of costs. COGS seem to have experienced a 20% YoY and are the reason behind flat profits since 2012.

# Brainstorming

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**Prompt:**

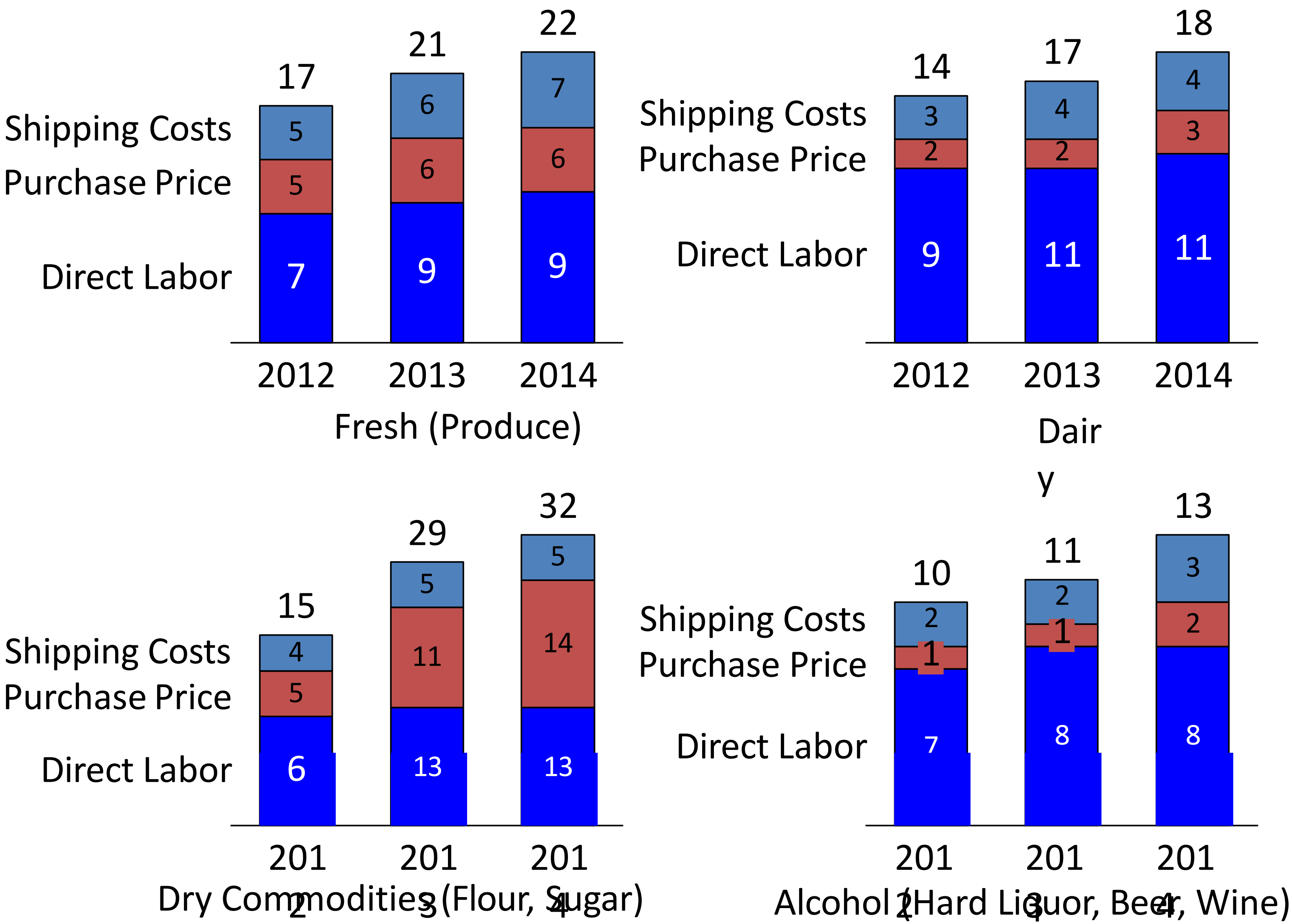
- What are some ways our client could reduce costs of goods sold within this category?
  - If candidate asks about why this isn't an issue for competitors, hand them next exhibit.
  - Otherwise, if they bring up supplier contracts, you can say, noting that this isn't an industry-wide issue and our competitors share many of the same suppliers, what information would be useful to look at?

**Analysis:**

Run through list of cost-cutting ideas:

- Renegotiate contracts with suppliers to lower costs
- Reduce order quantities = reducing holding and inventory costs
- Build relationships with new suppliers with lower costs
- Building out private brand

# Exhibit #2




All costs are in $M

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- Interviewee should note that within COGS, all costs remain steady or increasing relative to each other except for what our client is currently paying suppliers within the dry commodities category.
- Give candidate next slide to look into dry commodity product mix at competitors.

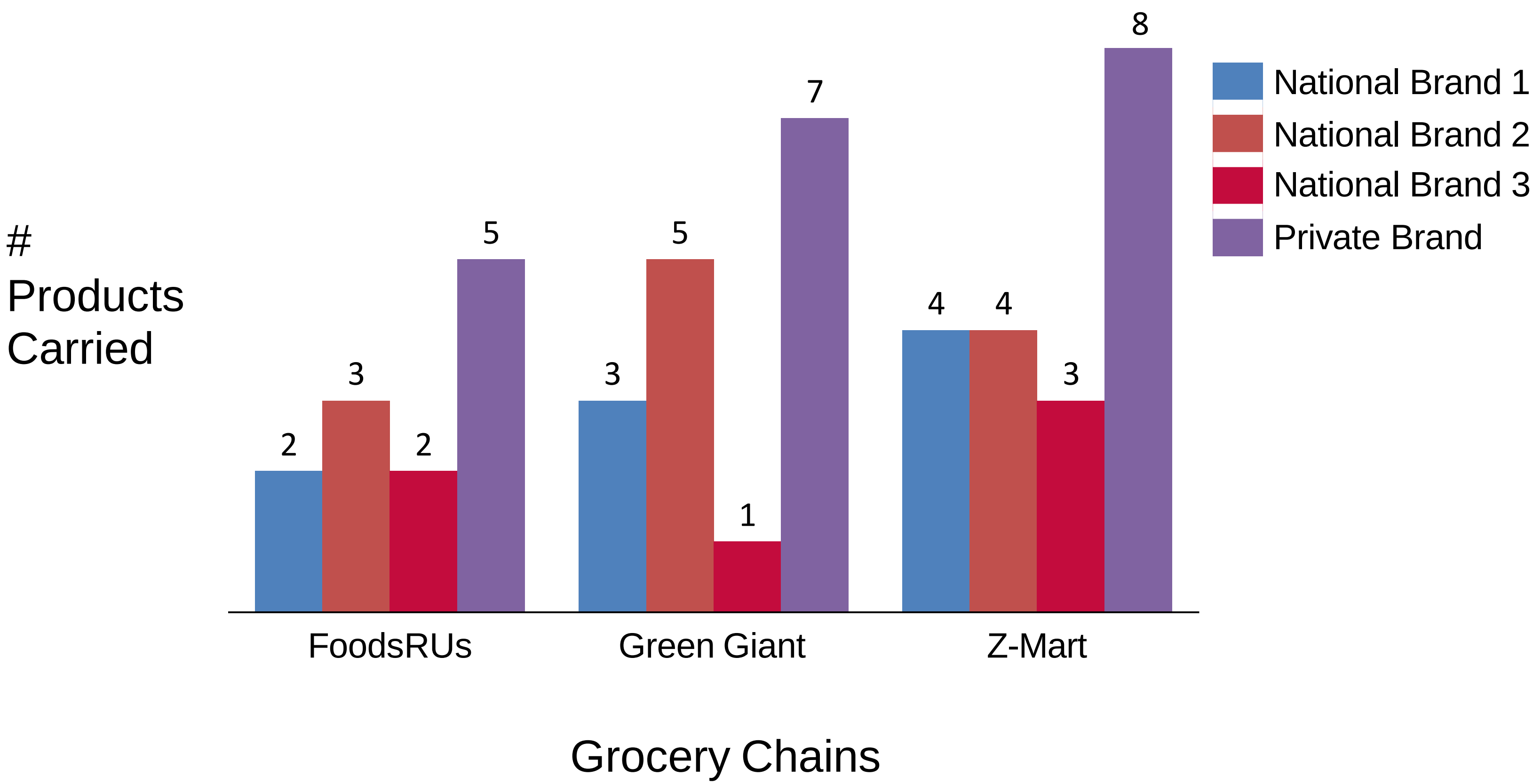
## Analysis:

- Analysis for the exhibit to have 2 parts –
  - Basic: COGS are increasing steadily YoY except for purchase price within Dry Commodities, which is increasing quite rapidly.
  - Second order insights: Purchase price for Dry Commodities is driving the out of control growth within COGS for SaveRite, most likely resulting from being over-charged by suppliers. Do we have information on these suppliers or what our competition is paying these suppliers?

# Exhibit #3

DUKE FUQUA SCHOOL OF BUSINESS

Competitive Product Portfolio for Dry Commodities



# Interviewer guidance on Exhibits

## Exhibit #3 Guidance:

- Interviewee should note that competitors seem to have moved to carrying more private brand products than national brand for dry commodities.

## Analysis:

- Analysis for the exhibit to have 2 parts –
  - Basic: Competitors all have more significant private brand presence in dry commodities than national brand presence.
  - Second order insights: Above insight paired with hypothesis about why this move happened (suppliers charging too much, customer indifference in this category to National Brand vs. Private Brand). Interviewee will want to understand why the move happened and ask for any information about willingness to pay or customer attitudes towards private brands.

# Exhibit #4

Customer Willingness to Pay Survey

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- Interviewee should note that customer WTP for private brand dry commodities is essentially similar to national brand WTP and they perceive no difference in quality of the two.
- If candidate asks for Exhibit 4 – The price is in $

## Analysis:

- Analysis for the exhibit to have 2 parts –
  - Basic: Customers are willing to pay the same price for private and national brands.
  - Second order insights: Customers are willing to pay the same price for private and national brands likely because little to no brand loyalty exists within this category for customers at our store. Since private brands are cheaper to produce and mitigate supplier power / overcharging, our client should explore private brand migration within this category.

# Recommendation

## Recommendation

- Prompt: You meet the CEO in the lift before the final presentation and he wants to know the recommendation.
- Recommendation: Our client should focus entirely on private brand selection within its dry commodities (sugar, flour) department. Suppliers charge too much for these items, causing our competitors to move to entirely private branded categories to reduce costs, made even further attractive by the fact that customers are indifferent to brands and lack brand loyalty in these categories. This move would save our client $XX and return the category to its prior profitability.

## Risks and Next Steps:

- A potential risk would be compromising key relationship with suppliers if they supply our client with other food besides flour and sugar.
- Next steps can be evaluating portfolio of products with this supplier to determine waterfall implications of discontinuing their product in this category.

# Queen Bae

**Industry:** CPG
**Case Type:** Growth strategy
**Led by:** Interviewee
**Quantitative Level:** Medium
**Qualitative Level:** Medium

# Behavioral Questions

**Question 1:**

- Discuss a time you had a conflict with a superior and how you resolved it.

**Question 2:**

- Tell me about a time you failed and what you learned from that situation.

# Queen Bae

## Prompt #1:

- Your client is Royal Honey, a manufacturer of premium organic honey that purchases its raw honey from a single farm in the Midwest. Despite record-high demand for high-quality organic honey nationwide, Royal Honey has experienced a gradual decline in profitability in recent years. Its CEO has come to you to determine why the company's financial state has rapidly deteriorated over the past four years and to develop a turnaround strategy for the company.

## Case Background:

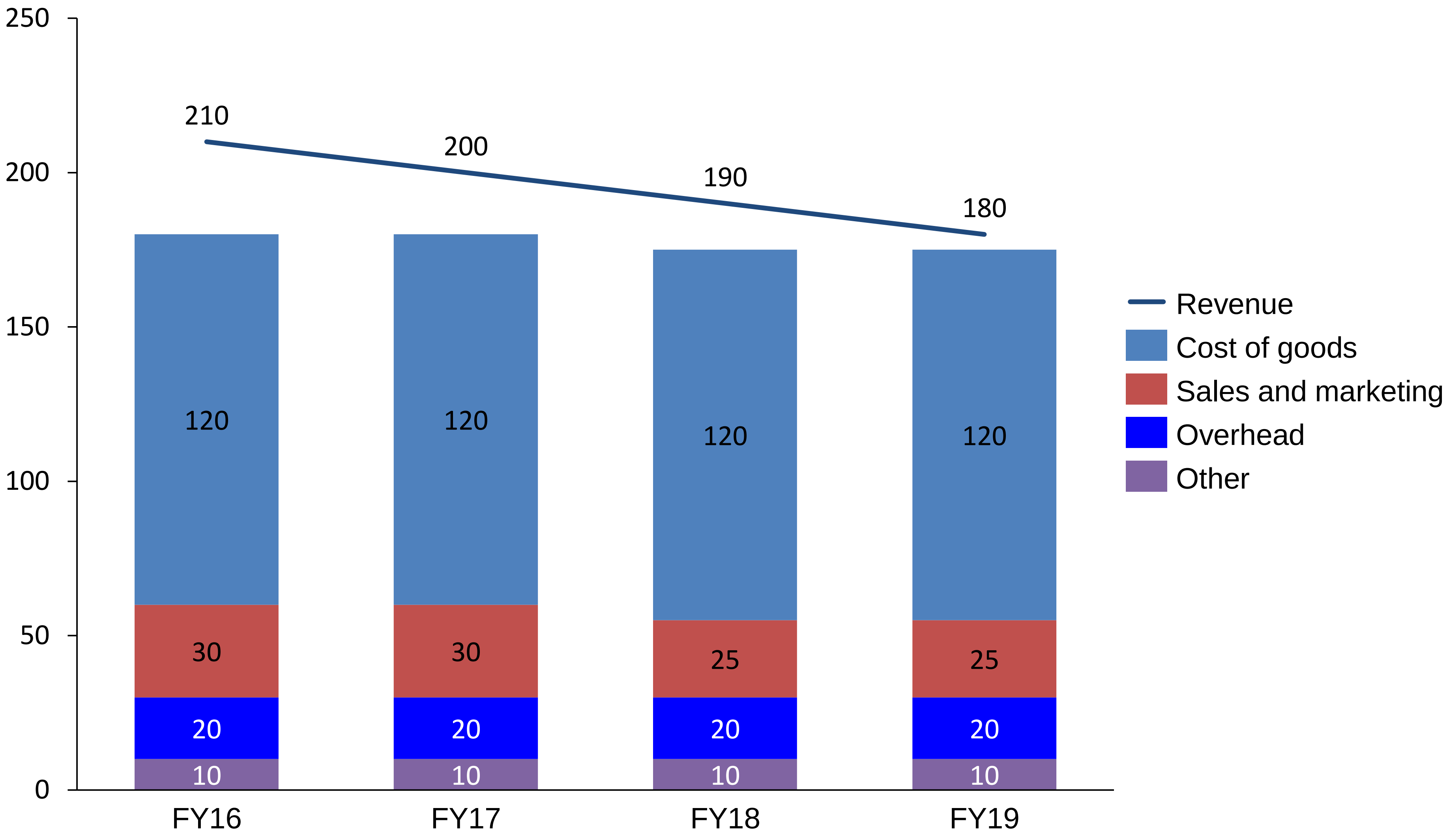
- Overall Goal - Company wants to return to FY16 profitability in two years
- Competition/Market
  - Declining revenue and profitability for all major competitors, but not to the same extent as Royal Honey.
- Product
  - Royal Honey sells only one product: organic golden honey
- Value Chain/Revenue Information
  - Royal Honey purchases raw honey from suppliers and manufactures organic golden honey.
  - It sells to domestic high-end grocery stores (e.g., Whole Foods) nationwide

# Queen Bae

## Framework Buckets:

- Strong framework should focus on honey manufacturer value-chain. Possible Buckets include:
  - Raw Honey Procurement
  - Honey Manufacturing/Processing (Operations)
  - Warehousing/Storage
  - Distribution/Sales
- Strong frameworks can also include:
  - Honey market analyses
    - New market entrants
    - Shift of honey demand from food product to consumer goods (e.g., chapstick)
  - Revenue/Cost analysis
    - Price/volume changes
  - Environmental/regulatory factors
    - Honeybee population decline
    - FDA considerations

# Exhibit #1


250
200
150
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210
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190
180
120
120
120
120
30
30
25
25
20
20
20
20
10
10
10
10
FY16
FY17
FY18
FY19
Revenue
Cost of goods
Sales and marketing
Overhead
Other

# Interviewer guidance on Exhibits 1

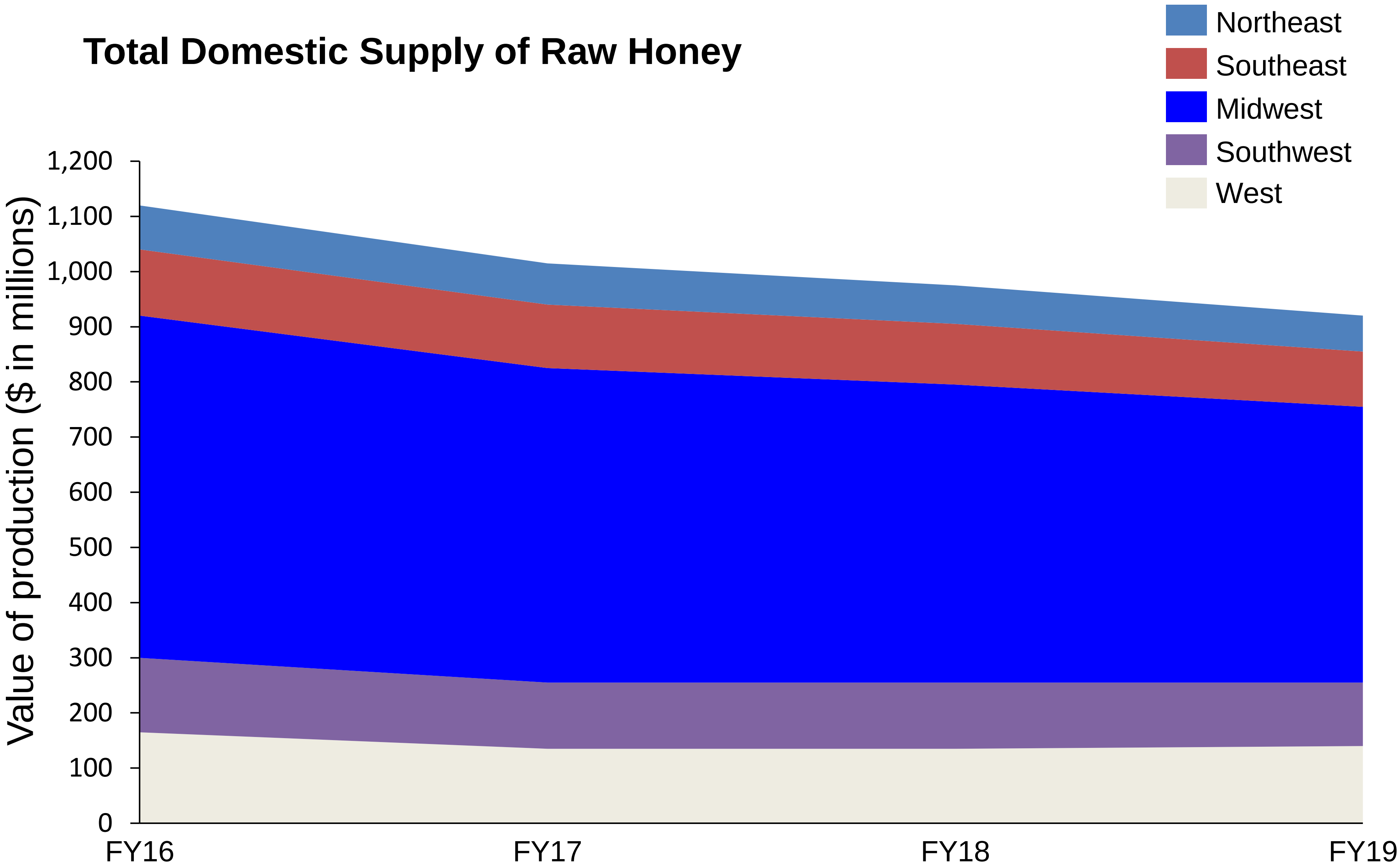
## Exhibit #1 Guidance:

- Exhibit 1 represents Royal Honey's revenue and expenses ($ in millions) over past 4 years.
- If candidate asks for more information on revenue, state that the Royal Honey selling price has remained consistent at $10/lb.
- If candidate askes, mention cost of goods includes raw honey, processing, manufacturing, bottling, labeling.
- Once candidate requests additional information relating to sales volume or cost of goods, move to Exhibit 2.

## Analysis:

- Candidate should draw the following insights from Exhibit 1:
  - Revenues have declined $30M and profits $25M over past four years
  - Expenses have remained relatively stable on a dollar basis but significantly increased as a percent of revenue
  - Case Objective is to return to FY16 profit ($30M), thus need to increase profit $25M by FY21
- Strong candidate should realize that:
  - Domestic market demand is growing nationwide but Royal Honey revenue is declining
  - Given that price has remained stable, Royal Honey faces declining sales volumes and increasing cost of goods dilemmas
- Candidate should want more details on the increased cost of goods and declining sales volume

# Exhibit #2


Total Domestic Supply of Raw Honey
Northeast
Southeast
Midwest
Southwest
West
Value of production ($ in millions)
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
FY16
FY17
FY18
FY19

# Interviewer guidance on Exhibits 2

DUKE FUQUA SCHOOL OF BUSINESS

## Exhibit #2 Guidance:

- Exhibit 2 represents total domestic supply of raw honey by region over the past 4 years
- Candidate should recognize that Honey Production has been declining
- If asked for more information on the decline in honey production, mention that bee populations have been declining nationwide and that populations in the Midwest have been particularly impacted
- Once candidate realizes that supply constraints are driving up the cost of raw honey AND/OR that the company cannot meet demand, move onto brainstorm

## Analysis:

- Candidate should draw the following insights from Exhibit 2:
  - Domestic honey production has decreased by ~$200M over the past four years
  - The Midwest has been impacted the most, declining $120M (from $620M to $500M)
  - Decline in honey production has led to increased prices of raw honey
- Strong candidate should realize that:
  - Since Royal Honey sources its honey from a single farm in the Midwest, it is likely facing supply constraints
  - Therefore, Royal Honey is unable to meet demand for its products and is missing out on millions of dollars of sales
- Candidate should want to explore additional sources of honey beyond the United States

# Brainstorming

## Prompt:

- Based on your request, our client has presented us with some additional information. For the past few years, honeybee populations in the United States have been declining. This has resulted in limited availability of raw honey as well as rising prices. This trend has especially impacted Royal Honey as its Midwest supplier has declining raw honey production and as a result has increased its price annually.
- Given this information, what should our client consider to increase profitability?
- Once candidate wants to explore additional raw honey procurement sources, move to next Exhibit

## Analysis:

- The interviewer should mention several factors but should primarily focus on expanding Royal Honey's procurement of raw honey. Ideas include:
  - Expand procurement beyond single Midwest farm to source raw honey internationally (e.g., Mexico, South America)
  - Invest in R&D to develop animal-free honey product
  - Invest in R&D to develop sustainable practices/technologies that better preserve beehive populations
  - Raise price of honey sold at stores
  - Change formulaic mixture of Royal Honey to utilize less raw honey, thus expanding volume
  - Vertically integrate or partner internationally
- Strong candidates will also point out the difficulties of:
  - New supply agreements
  - International supply chains and add'l costs
  - International taxes, trade agreements, tariffs
  - Potential impact of FDA regulations

# Exhibit #3

| Supplier Location | Available raw honey supply | Raw Honey Cost | Other Cost Considerations* |
|---|---|---|---|
| Current | 20M pounds | $7.25 / lb | $2.50 / lb |
| Mexico | 10M pounds | $6.00 / lb | $3.00 / lb |
| Brazil | 10M pounds | $4.50 / lb | $5.00 / lb |
| S. Africa | 5M pounds | $3.50 / lb | $4.50 / lb |
| China | 5M pounds | $3.50 / lb | $4.50 / lb |

*Other cost considerations includes all additional costs beyond raw honey necessary to sell finished goods (e.g., transportation, manufacturing, SG&A, etc.).

# Interviewer guidance on Exhibits 3

## Exhibit #3 Prompt:

- Given our recommendation to expand raw honey procurement, our client has provided us with a list of potential international raw honey suppliers as well as its current supplier price.

- The company estimates that there will be demand for 30M pounds for Royal Honey nationwide in FY21. Assuming a sale price of $10 per pound, what is the optimal raw honey procurement strategy for Royal Honey to maximize profit?

- **Only if asked for current contract terms**, mention that Royal Honey has minimal purchase order of 10M pounds annually with its Midwest supplier.

## Analysis:

- Candidate should draw the following insights from Exhibit 3:
  - Prioritize cheapest sourcing first: 1) China & S. Africa 2) Mexico 3) Brazil 4) Current
  - Profit per pound by Country:
    - China/S. Africa: $10 – $8 = $2/lb
    - Mexico = $10 - $9 = $1/lb
    - Brazil = $10 - $9.50 = $0.50/lb
    - Current = $10 – $9.75 = $0.25/lb
  - Answer (not considering minimum purchase order):
    - (5M x $2) + (5M x $2) + (10M x $1) + (10M x $0.5) = **$35M profit**

- Strong candidate should realize that:
  - Current sourcing contract requires purchase of 10M pounds of raw honey annually
  - (5M x $2) + (5M x $2) + (10M x $1) + (10M x $0.25) = **$32.5M profit**

# Queen Bae

## Recommendation

- The CEO has just walked in the room. What is your recommendation moving forward?

## Risks and Next Steps:

- Recommend implementing expanding procurement internationally which will exceed goal of $30M of net income in FY21 by 8.3% ($2.5M).
- Risks include establishing new international supply chains, FDA regulation compliance, competitor response, changing customer demand, continued decline of honeybee populations, and quality control of new suppliers.
- Next steps are to perform due diligence on new suppliers, establish shipping contracts, and expand production capacity to the extent necessary.

# Nautical Nonsense

**Industry: Food / Entertainment**

**Case Type: M&A**

**Led by: Interviewee / Interviewer**

**Quantitative Level: Easy**

**Qualitative Level: Medium**

# Behavioral Questions

| Question 1: |
| --- |
| Tell me about a time that you encountered conflict on a team. How did you handle it? |

| Question 2: |
| --- |
| What to hope to learn most during your internship / full-time position? |

# Nautical Nonsense

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1:

Mr. Krabs, the owner of the restaurant "The Krunchy Krab", has a predicament. The Krunchy Krab has reigned as king of the Martini Bottom casual restaurant market for quite some time, however, their primary competitor, "The Clam Bucket", which is run by Mr. Krabs' arch nemesis, Plankton, has been rapidly stealing market share from the Krunchy Krab for the last few years. Krabs has hired your consulting firm to figure out how to solidify its place as the dominant player in the market. Last year, the Krunchy Krab brought in $500K in revenue. What should Mr. Krabs do to improve sales this year?

## Case Background:

Additional Information to give the candidate if asked:

- Client/Company
  - The Krunchy Krab currently sells only 1 product, the "Krunchy Patty", which is a 100% lean beef burger
  - Last year, the Clam Bucket brought in $400K in revenue
- Market
  - The Krunchy Krab competes in the casual restaurant market in Martini Bottom which is a $1.5M market located just outside the U.S.
  - The casual restaurant market is fairly concentrated in Martini Bottom – in addition to the Clam Bucket and the Krunchy Krab, there are a few other smaller competitors
  - We don't have any information as to why the Clam Bucket has been stealing market share at the moment
- Goal
  - Mr. Krabs is eager for retirement, so he wants quick results. **The primary objective is for the Krunchy Krab to increase annual sales to $750K THIS year (a 50% share of last year's total market size).**

# Nautical Nonsense

## Framework Buckets:

•Suggested buckets for a framework for this case include:

Organic Growth

- Same Products, Same Markets
  - Improve the customer experience
  - Build a referral or rewards program / initiative
  - Hire more staff to accommodate customers in peak times
  - Increase hours of operation
  - Increase / decrease prices
- Same Products, New Markets
  - Increase marketing efforts
  - Expand into new markets / regions geographically
- New Products, New Markets
  - Introduce a new product line (e.g. hot dogs, fries, veggie burgers)

Inorganic Growth

- Acquire a competitor to quickly gain market share and generate synergies

## Interviewer Guidance

- Interviewee should stray away from a profitability framework (revenue and costs) and instead focus on ways to increase market share (improving sales)
- Interviewer should point to the acquisition option as the best path considering the short term objectives of Mr. Krabs. If they do not recognize this, continue to nudge the interviewee in the direction of inorganic growth. Next, show them exhibit 1.

# Exhibit #1

Mr. Krabs agrees that with his short-term goals in mind, an acquisition is the best route to take. Which of the following restaurant(s) would you recommend that the Krunchy Krab acquire in order to meet those goals?

| Restaurant | Price | Annual Rev. | Synergy Potential |
| --- | --- | --- | --- |
| Sandy's Steaks | $500K | $250K | LOW |
| Squiddy's Sandwiches | $375K | $125K | LOW / MEDIUM |
| Flying Dutchman Fries | $225K | $150K | HIGH |
| Patrick's Pizza | $75K | $75K | MEDIUM |

**Note:** Mr. Krabs estimates that the Krunchy Krab has $400K in its capital budget which they are willing to spend toward M&A activity

# Interviewer guidance on Exhibit 1

DUKE FUQUA SCHOOL OF BUSINESS

**Exhibit #1 Guidance:**

If the interviewee forgot the original goal or never asked, remind them that Mr. Krabs' objective is to reach $750K in sales (so they need $250K additional revenue from their current annual revenue of $500K)

If the interviewee asks, clarify that they are welcome to choose more than 1 option

**Analysis:**

The interviewee should recognize that NONE of the combinations of acquisitions will both meet the $250K revenue addition and stay under the $400K capital budget

They should, however, recognize that the combination of a "Flying Dutchmen Fries" and Patrick's Pizza" combination, will get them closest to the $250K revenue needed ($225K total) and within the capital budget allotted

The interviewee might start looking at the Price / Annual Rev. ratios. While not necessary, this will also identify the best two acquisition options

Additionally, the interviewee should recognize that each of these 2 restaurants have medium or high synergy potential, thus, the interviewer should drive toward brainstorming value creation strategies between the Krunchy Krab and the newly acquired restaurants in order to make up for the remaining $25K. If they don't, push them to do so.

# Brainstorm 1

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt:

What strategies can the Mr. Krabs use to create revenue synergies between the Krunchy Krab, Flying Dutchman Fries, and Patrick's Pizza?

## Analysis:

Ideas may include:

Price

- Selling products in combination deals / bundling
- Using shared marketing channels through improved brand recognition
- Introducing new, complimentary products at each restaurant

Volume

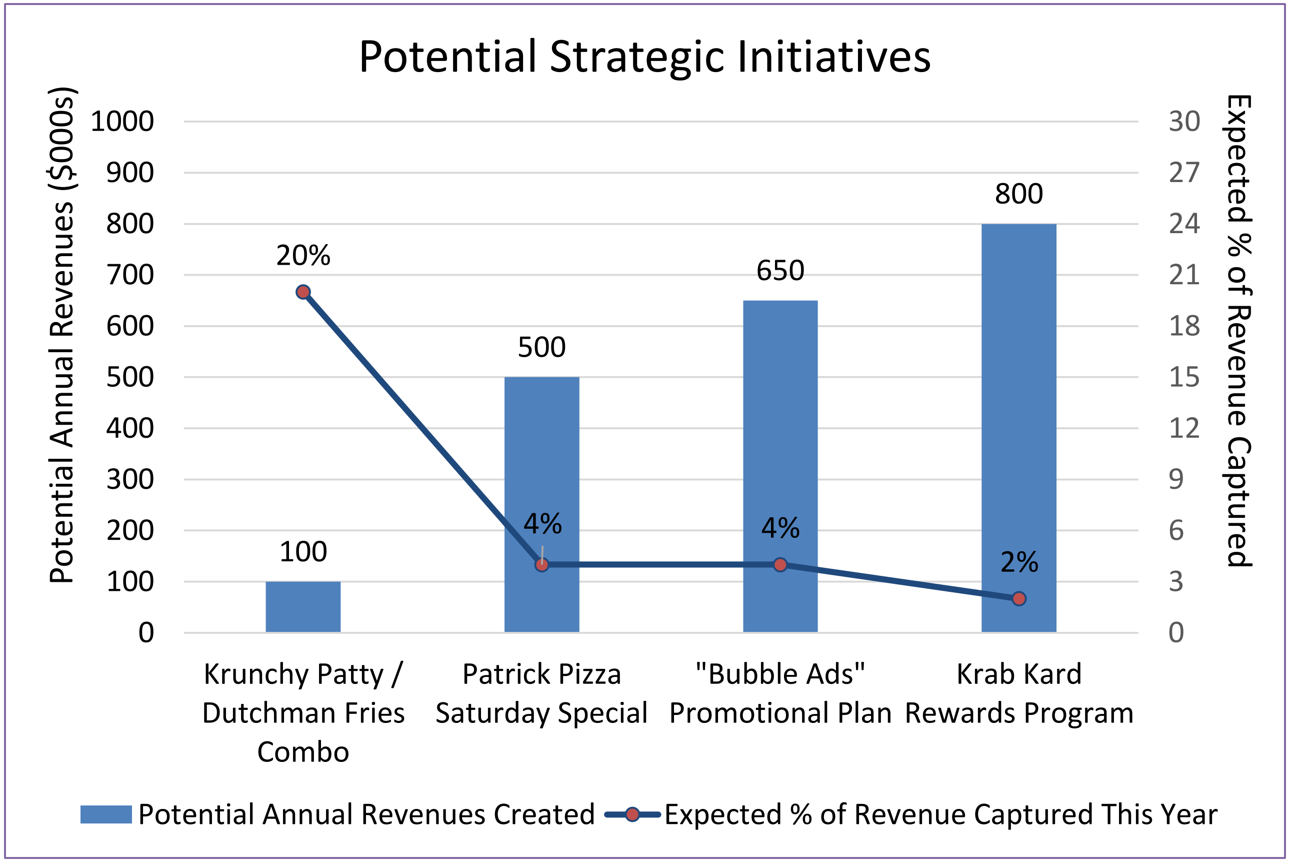
- Leveraging increased pricing power to raise product prices
- Running promotions / discounts
- Introducing a rewards program for visits / purchases

## Interviewer Guidance

- After the interviewee has thought through several potential sources of revenue synergies, show them exhibit 2

# Exhibit 2

Mr. Krabs agrees that there is high revenue synergy potential between the three restaurants which could help the Krunchy Krab reach his sales target, but the short timeline necessitates the selection of only one initiative to focus on. Which of the following initiatives would you recommend in order to capture the necessary remaining revenue?



# Interviewer guidance on Exhibit 2

**Exhibit #1 Guidance:**

The interviewee should recognize that the amount of revenue synergies necessary in order to reach the sales target is $25K ($225K + $25K = $250K). Remind them of this if they forget.

**Analysis:**

The interviewee should begin calculating the expected revenue from each option, either by writing out their calculations or talking through their logic.

Ultimately, the interviewee should determine that the “Bubble Ads” promotion (4% x $650K = $26K) is the best initiative choice as it helps the Krunchy Krab reach Mr. Krabs’ sales target.

# Recommendation

Mr. Krabs had to step out, but the GM, SpongeRob, just walked in the room. Let's hear your final recommendation for the Krunchy Krab!

## Recommendation

Given Mr. Krabs' short-term growth goals, the Krunchy Krab should:

Focus on inorganic growth by acquiring Flying Dutchman Fries and Patrick's Pizza to add $225K in additional sales

Capture the remaining $25K by launching a "Bubble Ads" shared billboards promotional initiative for the combined restaurant group

## Risks and Next Steps:

- Risks:
  - Mergers don't always result in synergies, so they still might fall short of Mr. Krabs' target sales goal, especially within such a short timeline
  - Competitive response from the Clam Bucket – might respond by acquiring another restaurant or growing organically
  - Cultural issues between the restaurants
  - Cannibalization – might just steal customers from one another and not actually add new sales
  - The acquired restaurants might be reddened with debt – lack of proper due diligence
  - Focusing on short-term market share gain might not lead to long-term prosperity
- Next Steps:
  - Initiate actions toward negotiating the deal and beginning integration activities
  - Contact marketing to start promotional planning for the billboard plan

# Nautical Nonsense

| Candidate Level | Assessment |
|---|---|
| Average Candidate | The interviewee creates a profitability framework and/or fails to recognize that inorganic growth is the best solution for short-term growth in market share. |
| Good Candidate | The interviewee correctly identifies that this case is about growing sales and that an acquisition might be a good strategy, but they struggle to get through the math in the exhibits and/or require prodding to analyze potential synergies to reach the target sales goal. |
| Excellent Candidate | The interviewee confidently analyzes both inorganic and organic solutions to increase sales, breezes through the exhibits, and provides a strong recommendation that ties together the acquisition strategy and synergy creation which leads to reaching the $750K sales target. |

# ICEAP

| | |
|---|---|
| **Industry:** | **Healthcare** |
| **Case Type:** | **Investment Decision** |
| **Led by:** | **Interviewee** |
| **Quantitative Level:** | **Medium** |
| **Qualitative Level:** | **Medium** |

# Behavioral Questions

**Question 1:**

- Tell me about a time you've been stuck in a project

**Question 2:**

- Tell me about a time you had to absorb a lot of information quickly and how did you do that

# ICEAP

## Prompt #1:

- Your client, Device 3 Ventures is a US based venture fund that invests in attractive early medical devices technologies in hopes to quickly gain a positive ROI. Device 3 is evaluating whether to invest in a joint venture with the Mustard Clinic to fund a new therapy for acute pancreatitis ("AP") called ICEAP. Device 3 wants to know if they should invest in this technology?

## Case Background:

- Background information to be divided into these categories (Please mark N/Aif information is not provided)–
  - Client/Company information
    - Device 3 focuses on funding technologies that gain positive ROI ***within 3 years***. Device 3's strategy is to develop the technology to the point where a strategic buyer (i.e.Medtronic) would want to buy the technology from them.
  - Industry/Competition information
    - Acute Pancreatitis is a disease that can be deadly and can cause ER stays of up to months.
  - Product information
    - ICEAP provides therapeutic relief by cooling the pancreas. It has been extremely successful at curing rodent AP, reducing mortality rates in AP from 90% to <10%. The technology is patented by Mustard Clinic.
    - This therapy is a medical device, and the patient still needs to take additional drugs, etc to fully recover from AP.
  - Value Chain/Revenue information
    - Medical Device manufacturers revenues' rely on insurance reimbursements. The industry is highly competitive and innovation is a clear competitive advantage.
  - Interviewees should keep in mind regulations in healthcare

# ICEAP

## General Framework Buckets:

- Market
  - AP Market Size and Growth
  - Consumer Base
    - Physicians
    - Insurance Companies
    - Patient effect / Comfort
  - Current Standard of Care
    - Competitive analysis in:
      - Care level
      - Development cost
      - Pricing & Patents
- Product
  - Economics
    - Investment Required
    - Potential Market Capture
    - Pricing
  - Characteristics
    - Product Value Add
  - Substitutes
- Team
  - Team expertise to develop the technology
  - Trust and confidence

# ICEAP

## Question #1:

- Device 3 has observed a trend in the marketplace that shows that insurance providers (Payers) have gained bargaining power against device manufacturers. They are concerned this market might be a worthy one to invest in.
- The first question Device 3 wants to know is what the total revenue opportunity in for ICEAP? Please Walk me through how you would think about this.

## Notes:

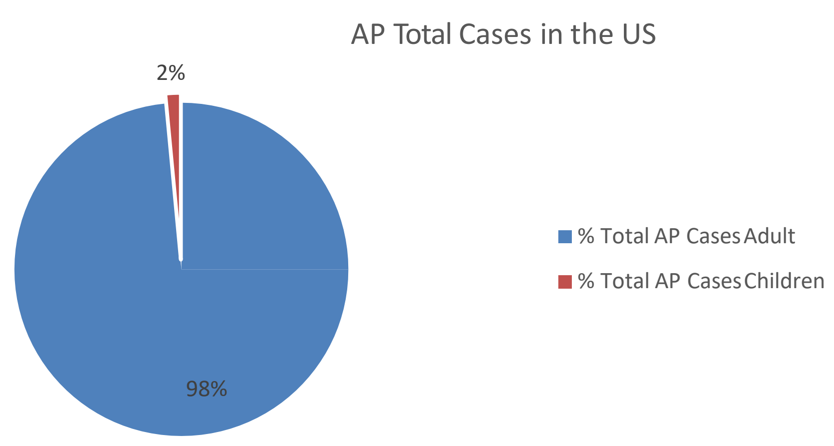
- If interviewee does not push towards a market sizing discussion, point them this way.
- Also note that the question is asking for the market size of AP medical devices, not treatment overall.

# Exhibit #1

DUKE FUQUA SCHOOL OF BUSINESS

| | |
|---|---|
| US Population | 300 Million |
| % Adults (>20 yrs. old) | 80% |
| % Children (<20 yrs. old) | 20% |
| Adult Incidence of AP | 0.05% |
| Child Incidence of AP | 0.10% |
| Daily cost of AP Treatment* | $ 7,000.00 |
| Average Length of Stay (in Days) | 7 |

***All inclusive of the following costs: drug, provider salaries, hospital overhead, and AP devices***



# Interviewer guidance on Exhibits

DUKE FUQUA SCHOOL OF BUSINESS

## Exhibit #1 Guidance:

- Candidate should drive to find Market size by first walking interviewer through thoughts (interviewer should wait to supply numbers)
- Candidate should have rough framework approximating information in Exhibit 1
  - US Population
  - AP Incidence by Age
  - Average AP Treatment cost
  - % of treatment cost attributable to AP medical devices
- Once candidate provides high level overview, provide Exhibit 1
  - Candidate should walk through the math smoothly(OK to round hospital costs to $50k)
  - Candidate should only focus on Adult Market as it represents a larger size of the market. Redirect them to not calculate child market. Math works out but children is such a low number.
  - Good candidate will recognize that the actual profits/ ROI will have a multiple to adjust for technologies future potential when selling it to another firm. (No need for calc)

## Analysis:

- Candidate should recognize that this is the size for AP total treatment market NOT medical device market size OR the ICEAP revenue opportunity
- Additional information
  - Medical devices for AP usually capture ~10% of the value created in the in treatment market.
  - New medical devices usually capture an average of 1% of their market aggressively growing their market share by 50% for the first 2 years after introduction
    - If this Approach is followed then AP Device market is $588 Million and the ICEAP can have a potential first year revenue of $5.8 M and 3 year revenue potential of ~$28M
- Candidate should recognize that revenue number should be compared to investment cost. Total investment cost would be $30M.

# Interviewer guidance on Exhibit

| Device 3 Revenue Opportunity | | Units |
|---|---|---|
| Adult Cases | 0.12 | Million |
| Total LOS Cost | $49,000 | |
| Total Adult AP Treatment Market Size | $5,880 | Million |
| AP Device Market Capture | $588 | Million |
| ICEAP revenue Y1 | $5.88 | Million |
| ICEAP revenue Y2 | $8.82 | Million |
| ICEAP revenue Y3 | $13.23 | Million |
| Total ICEAP 3 Year Revenue Potential | $27.93 | Million |

# Exhibit #2

## Physician input from panels on AP treatment and views of ICEAP

### Current State

- **"We are stepping into a gunfight with our bare fists"**
- **"No true standard of care has been developed because nothing has proven to be effective"**
- **"The pancreas arrives red hot. You cannot mess with something like that, you will just make it worse. You have to wait; ER staffs do not know what to do but to send people to ICUs to wait it out"**

### *ICEAP*

- ***"This could give us a pistol to enter into that gunfight"***
- ***"Any nurse of ED department could implement these"***
- ***"You will see no opposition from GIs"***
- ***"This will give us essential time and allow us to cool red hot pancreas"***
- ***"At first the adoption rate will likely be below 10%; however if we can show that it works then it will become the standard of care"***

# Brainstorming

## Prompt:

- However total investment costs are projected to be $30M, and Device 3 is concerned they might lose out on an incredible investment opportunity. Since ICEAP has had such success in rodent testing, Device 3 believes that customers would likely adopt ICEAP at a higher rate than historical market rates. Given this, what ideas do you have to make ICEAP a more attractive investment?

- Interviewer Guidance: Basically there is potential for higher revenue than the projected $28M

## Analysis:

- Ensure that interviewee structures brainstorm, sample buckets include
- Revenue
  - Obtain high reimbursement rates (i.e. Price)
  - Target multiple healthcare sites / channels
  - Involve physicians and hospitals at early stages to increase awareness in the society for faster adoption - Hospital tie-ups to sell quickly
- Costs
  - Obtain Regulatory (FDA)Approval quickly
  - Optimize R&D
  - Decrease projected marketing costs by leveraging other portfolio companies
- Product
  - Create a more effective product than current Market solutions
  - Target customer preferences
  - Patent extension

# Interviewer guidance on Exhibits

## Exhibit #2 Guidance

- Candidate should drive to find exhibit by brainstorming ideas related to customer preferences, current standard of care.
- It is ok / expected that candidate might be thrown off by exhibit
- The candidate should recognize that there is a gap between the current state of care and the proposed product.

## Analysis:

– The key takeaway from this exhibit is that ICEAP is likely to be a product that would be widely adopted and would specifically target unfulfilled customer needs. If candidate does not get here, push them until they do so.

# Recommendation

## Recommendation

- The Managing Partner at Device 3 wants to know how you are doing, can you summarize your findings?

Interviewer Guidance - The recommendation can be either to go or not to go in this market, but should have strong reasoning in either case

## Risks and Next Steps:

- Risks
  - Viability in humans - Product has been rodent tested but no guarantee it will work in humans
  - Regulatory approval potentially not aligning with fund timeline
  - Reimbursement being too low
  - Can easily be developed by competitor
- Next Steps
  - Device 3 needs to invest in analysis of how tech would affect humans
  - Device 3 to explore Regulatory requirements and how to speed the process before new entrants get into the market

# Evaluation Criteria

DUKE FUQUA SCHOOL OF BUSINESS

| Candidate Level | Assessment |
|---|---|
| Average Candidate | Candidate needed prompting to complete market sizing. Candidate provided large structure of brainstorming but did not dive in or prioritize. Candidate provided summary without POV. |
| Good Candidate | Candidate drives market sizing providing solid initial structure. Candidate dives into brainstorming and prioritizes buckets of information. Candidate provides POV in recommendation. |
| Excellent Candidate | Candidate drives market sizing, gets by the math and recognizes missing information. Then candidate provides so what? which leads to brainstorming. In brainstorming candidate clearly structures it and dives into each bucket. Candidate provides POV in recommendation but also recognizes clear risks and provides actionable next steps in technology development. |

# PSG Bank over the sky!

| | |
|---|---|
| Industry: | Personal Banking |
| Case Type: | Growth Strategy |
| Led by: | Interviewer |
| Quantitative Level: | Medium |
| Qualitative Level: | Medium |

# Behavioral Questions

DUKE FUQUA SCHOOL OF BUSINESS

| Question 1: |
|---|
| • Tell me about a time that you had a clear point of view and you had to change it? |

| Question 2: |
|---|
| • Tell me about a time you and another party had different points of views about how to manage a situation and how did you moved forward? |

# PSG Bank over the sky!

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1:

- Your client is PSG - a Latin American private bank. It is one of the oldest banks within the region and, despite continuous growth throughout the years, its revenues have been constantly declining the past five years. The CEO of PSG is worried and has called you and your team to help her reverse this trend.

## Case Background:

- **Client/Company information**: Company presence in most Latin American countries. Not interested in expanding to other regions.
- **Industry/Competition information:** PSG has two types of competitors. Other large and also “traditional” banks and smaller “start-up” banks, with increasing presence in retail spaces. The latter are seen as an important thread due to important product innovation, especially in credit card products and incentives.
- **Value Chain/Revenue information:** PSG divides its operations in Retail (personal credit cards, personal loans), Commercial (small, medium and large firms products) and Products and Markets (Trading, project finance, forex, derivatives). Wewill not focus on deposits.
- **Objective:** PSG had yearly revenues of around $10B in 2005. The strategy team has determined that it can invest $500M per year for two years to reverse the observed continuous decline in income of 2% per year. By “reverse”, the CEO means to have at least no decline: forecasts project a similar decline the next two years. Profit margins (in %) have remained constant.

# PSG Bank over the sky!

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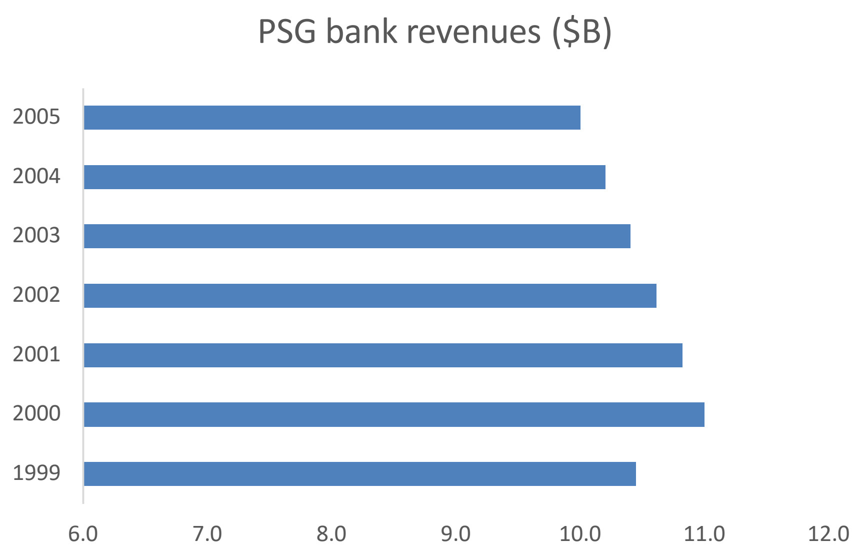
## Framework Buckets:

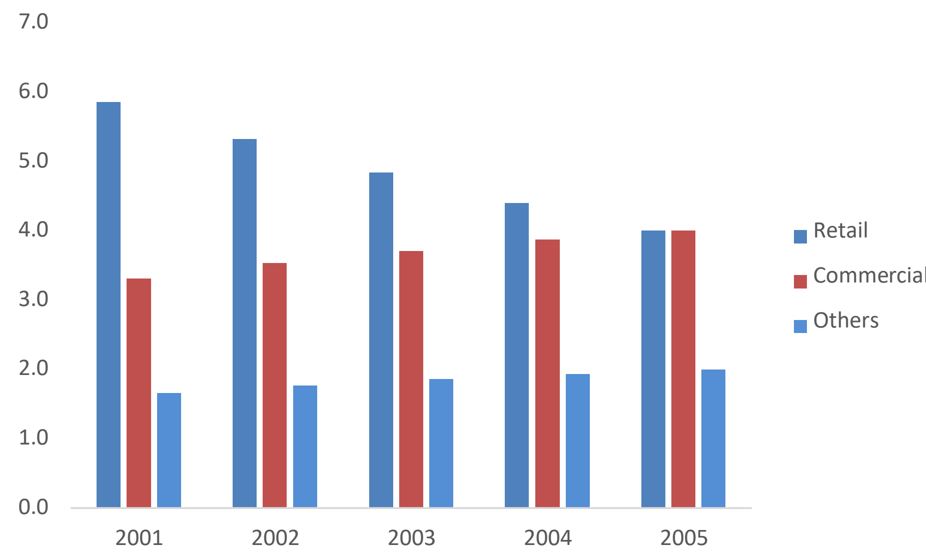
- It is a growth problem. Candidate should ask if there is only a revenue problem or also a margin one. Drive her or him into revenues.
- We can divide the possible solutions in "internal" or "external" possibilities to make PSG recover grow. However, since we are talking about banks, external factors like regulation have to be taken into account
- Inorganic Growth by mergers and acquisitions
  - Joint venture with other banks
  - Merger
  - Acquisition
- Organic Growth within existing segments
  - "Quantity" sold
    - New core products: create new app for money transfers (like Venmo), create new loan types (e.g., "group loans")
    - Other income sources: sell permitted data, third party advertising in branches, leverage direct marketing advertising (include advertising in bank statements)
    - Growth in existing products: increase credit card usage, increase loan amounts, decrease default rates
    - New clients: gain customers from competition (e.g., buy debt from other banks) and / or increase banking penetration (people inside the banking system or get people that only have deposits)
    - Offer new products to current clients
  - Price (interest rates)
    - Increase interest rates (but checking price elasticity), increase different fees
- Other / external
  - Address regulations (both for permitted activities and risk exposure)

# Exhibit #1

- PSG bank revenues ($B)




- PSG bank revenues ($B / year)



# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- Tell the candidate the client gave us growth information on their total revenues and also the breakdown by segment.
- If curiosity also on profit margins arises (should have been addressed before): Mention they have been steady overall and by segments.

- Candidate, in order to attain the objective, should suggest: grow more in commercial and others or stop the retail decline. Push on the latter
- Recall that the "forecast decline to be maintained" is that we will continue losing $200 M per year

## Analysis:

– Basic

- Its easy to check that total revenues have been declining steadily. Should recall the "2% decline in revenues the past five years" from the objective.
- Push the candidate to give decline number / year but with no need to make exact calculations. Shortcut: "around 11B in 2005 and 10B in 2000, would be 10% less in 5 years, which means around 2% decline / year, ignoring compound growth".
- Notice that main driver for decline is RETAIL segment.

- Second order insights
- Push for the same logic: $6B to $4B in 5 years: around 50% of $4B, so around -10% year (exact numbers are -9.1% in retail and +9.3% in both commercial and others)
- Recall this was a "traditional" bank: "industry / competition" information. Probably what could be happening is that smaller players are giving better deals to retail customers (credit cards or loans).
- Excellent candidate notices that Retail is now 40% income: would need only soft the decrease rate to achieve our goals and continue growing in other segments. Push candidate to explore Retail segment as suggested by client team (release the agenda!)

# Exhibit #2

- PSG bank Retail Revenue breakdown (in $B)

| Year | Credit Cards | Personal Loans | Others | Total |
|---|---|---|---|---|
| 2000 | 5.50 | 0.55 | 0.39 | **6.44** |
| 2001 | 5.00 | 0.50 | 0.35 | **5.86** |
| 2002 | 4.50 | 0.48 | 0.34 | **5.32** |
| 2003 | 4.00 | 0.49 | 0.35 | **4.84** |
| 2004 | 3.50 | 0.53 | 0.37 | **4.40** |
| 2005 | 3.00 | 0.59 | 0.41 | **4.00** |

# Interviewer guidance on Exhibits

## Exhibit #2 Guidance:

- Guidance for exhibit 2
- This is an easy exhibit. It is only intended to make the candidate rapidly notice that credit card segment is bleeding and that something has to be done (and prepare a brainstorm!)
- Push to avoid any calculations. The big "so what" is that credit card segment is loosing $500 M per year, and that has happened the last five years.

## Analysis:

– Basic

- We have to do something with credit cards! Fast!
- Personal loans and "others" retail segments are small compared to credit cards and increase slow. Even if we duplicate each one in two years (which is not reasonable), if we continue to loose money on credit cards we won't be able to attain our goal.

- Second order insights

- We are loosing $500M per year in credit cards… tie it back somehow to the main objective. In a simplistic way we need to "just loose" $300M to net the decrease of $200M per year for the next two years. In a more realistic observation, if we stop the decline in credit cards, we would have achieved the bank's objectives for the next two years.
- So… what can we do with credit cards?

# Brainstorming

## Prompt:

- Make the candidate briefly brainstorm on what can we do to stop the huge decrease on credit cards revenue?

## Analysis:

– High level brainstorming
  - "Quantity"
    - Retain customers
      - Loyalty programs
      - Exclusivity with institutions
    - Capture new customers
      - Marketing campaigns
      - Discounts to get new accounts
      - Target new segments
  - "Price"
    - Increase revenue per customer
      - Increase fixed charges
      - Increase interest rate
      - Bundles or cross-subsidies to increase purchases in different types of stores
    - Decrease default rate
      - Hire someone specialized to collect money
      - Sell customers with high default probability to other institutions
  - Others
    - Joint venture with start-up
    - Acquire the credit card division of smaller bank

# Market sizing ☺

## Prompt:

- The client's team determined that they we are losing customers in credit card segment because of loyalty programs from competitors. Customers were switching banks because of credit cards that accumulated "miles" for each purchase that PSG was not offering.
- The client knew the market share of the banks offering this deals was 1/3 of the total credit card market (PSG also had 1/3 of the market)
- The team *estimated* that they could maintain 100% of customers and revenue if a similar plan was offered.
- **How would you calculate potential expense of PSG in a similar program?**
- Hint: i) If we have 1/3 of the market and the banks offering this also have 1/3, a good proxy is to know how much they are spending! ii) consider that, in this case, airlines have contracts with average prices of flights bought with miles (it could also be the case that airlines charge a price per mile used by type of destination. We consider the first case)

## Analysis:

- One of the most important parts of the market sizing is to remember the "so what"! Candidate should first delineate her or his strategy for solving the problem (lot of teamwork!) and then do the numbers. Important parts of the sizing:
  - Miles accumulated and effectively used per month
  - Expense per month on domestic and international flights by the bank (remember the contract!)
  - Expense / year by PSG (remember banks with this perks were 1/3 of market and we have the same size)
  - So what: with this program we will "stop losing clients" which with everything constant is our goal! Have to compare with the $500M / year we have to expend!

# Proposed market sizing solution…

| **Bottom up** | | | |
|---|---|---|---|
| Population in countries of PSG bank | | 80 | |
| Population that could have a credit card | | 75% | from 18 years… if live expectancy up until 80 years. 75% of citizens |
| Credit cards per person | | 1 | make candidate assume 1 |
| Expenses per person / Month | 1,000 | | per month (assume / good candidate asks to extrapolate PSG's expense per person) |
| *Total expenses* | *60,000* | | *Million (60 B)* |
| Market share of banks that offer miles programs | | 1/3 | |
| Total expenses that generate miles | 20,000 | | Million (20 B) |
| Miles accumulated per $ expense | | 1 | Mile |
| Total Miles accumulated / month | 20,000 | | Million MILES (20B) |
| Miles effectively used | | 50% | Not that crazy… is not that you use half of your miles… is that you accumulate and then use your stock. However, are people that simply doesn't flight… |
| *Miles for transaction accumulated / month* | *10,000* | | *Million* |
| Domestic flights (80%) / International flights 20% | | | |
| **Domestic flights costs** | | | |
| Miles spent | 8,000 | | Million miles |
| Average miles required to buy Domestic flight | 50,000 | | Miles |
| Total domestic flights to purchase | 160,000 | | flights (not in million) |
| Avg cost negotiated w/airline for domestic flight | | 100 | |
| *Total spent / month* | *16* | | *Million $* |
| **International flights costs** | | | |
| Miles spent | 2,000 | | Million. Its 1/3 |
| Average miles required to buy Intl flight | 100,000 | | Miles |
| Total intl flights to purchase | 20,000 | | flights (not in million) |
| Avg cost negotiated with airline for intl flight | | 500 | |
| *Total spent / month* | *10* | | *Million $* |
| Total spent Dom + Intl / month | 26 | | |
| Market share of PSG bank = 1/3 (the same size!) | 26 | | expected expense / month |
| **Expected expense / year to maintain customers!** | **312** | | **$ MM expected expense / year** |

| **Top Down Approach…** |
|---|
| Total flights in the market: domestic / international |
| % of flights purchased by banks per type and cost per flight |
| We do not have the latter information. So push candidate to do it bottom up |

# Recommendation

## Recommendation

- The CEO of PSG bank just entered the room. She has a call in 5 minutes with stakeholders and is worried on the continuous revenue decrease of PSG and asks for your immediate advice for her call.

## Risks and Next Steps:

- Recommendation: make a loyalty plan for retail customers
  - Develop loyalty plan for retail customers (where we are losing $500M of revenues / year) based on giving miles per dollar spent. We will retain 100% of current customers
  - Yearly cost is around $312 / year, which is inside our budget
- Risks: i) Loyalty plan works for competitors, but our customers could react differently to these plans , ii) Potentially duplicating the demand of flights exchanged with credit card miles could increase flights estimated costs, iii) Additional marketing efforts and human resources for the loyalty plan could be hard to implement.
- Next steps (remember… one next step for every risk!): i) Make a pilot to rapidly test the loyalty program on our different customer segments, ii) Start conversations with airlines and draft long term contracts leveraging on our size (monopsony power!) and iii) Train marketing direction on best practices of loyalty programs and define if its necessary to create a new unit to implement this initiative

# Evaluation Criteria

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| Candidate Level | Assessment |
|---|---|
| Average Candidate | Over thinks the numbers in the exhibits<br>Get frustrated in the market sizing and forgets the "so what" of the numbers obtained<br>Sees the case as a "finance" problem rather than a commercial / marketing problem |
| Good Candidate | Remember the objective is "to stop the declining in revenues" and doesn't get trapped with profits<br>Doesn't get frustrated if started with top-down market size approach and smoothly changes to bottom-up |
| Excellent Candidate | Ties the final cost of the mileage program to the budget the CEO initially had and the "no decrease" objective<br>Is very coachable. There are lot of assumptions that we sometimes have to make, taking into account market knowledge<br>Doesn't get trapped in the math (exhibits) and make quick assumptions, "reading" the interviewer intentions<br>Has creative options on how we could get the market back |

# Fuqua Equity Partners Considers Skincare Solutions

| | |
|---|---|
| Industry: | Private Equity |
| Case Type: | Market Size and Positioning |
| Led by: | Interviewer |
| Quantitative Level: | Low |
| Qualitative Level: | Medium |

# Behavioral Questions

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**Question 1:**

- Tell me about a time you had a disagreement with someone on your team?

**Question 2:**

- Tell me about a time you had to deal with ambiguity in the workplace?

# Fuqua Equity Partners Considers Skincare Solutions

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## Prompt #1:

- Your client is Fuqua Equity Partners, a midsized private equity firm out of New York. They are considering the acquisition of Skincare Solutions, a contract manufacturer of beauty and skincare products. Skincare Solutions is a smaller player who focuses on environmental friendly solutions. They also are known for turnkey solutions. For Phase 1, your client is interested in understanding about the skincare contract manufacturing market as well as Skincare Solutions' competitive positioning.

## Case Background:

- **Client Information:** Skincare Solutions was founded in 1985. A contract manufacturer is a third party hired to manufacture the product for the client. They do not sell or distribute this product. Turnkey solutions is end to end solutions (i.e. R&D and Formulation all the way to bottling and shipping. However this does not include B2C distribution). The client is located in Jacksonville, Florida. They own two plants in Jacksonville.
- **Customer:** Skincare solutions client mix includes independent brands (i.e. independently owned and operated so not major brand) and private label brands
- **Market:** Skincare market is divided into 3 segments: Mass, Premium, and Prestige.
- **Timeline:** Fuqua Equity Partners is expecting a 5 year hold period (i.e., they are looking to hold the investment for 5 years before selling)
- Client has not established an ROI threshold yet

# Fuqua Equity Partners Considers Skincare Solutions

## Sample Framework (Comprehensive)

**Fuqua Equity Partners**
**1) Understand skincare contract manufacturing market**
**2) Analyze Skincare Solutions competitive positioning**

### Skincare Market

- What is the overall market size for skincare? Is there a difference for contract manufacturing?
- What is the historical and expected market growth for both segments?
- How intense is the competition amongst players? How fragmented is the market?
- Are there any major trends?
- What are barriers to entry for new players?

### Skincare Solutions (Target)

- What is Skincare Solutions' current financial position?
- What assets or capabilities does Skincare Solution currently have? Do they have patents?
- What is the strength of the current management team?
- How is the culture?
- How likely is major turnover after an acquisition?

### Fuqua Equity Partners (Buyer)

- What is Fuqua Equity Partner's portfolio?
- How will this acquisition be financed?
- What is the Fuqua Equity Partner's expected holding period for this acquisition?
- What is the Fuqua Equity Partner's investment thesis?
- Is it the right time for this Fuqua Equity Partners to make an acquisition?
- Are there better opportunities for Fuqua Equity Partners?

### Synergies & Risk

*Synergies*

- Are their any revenue or cost synergies available by being acquired by Fuqua Equity Partners?
- Are there additional companies in this space that can be acquired?

*Risks*

- Are there any impending regulations?
- Is this industry likely to be impacted by a recession?

# Prompt 1: Market Size

## Prompt:

- Can you please size the US market for all skincare products (not just contract manufacturers)

## Analysis:

- Analysis of brainstorming to have 2 parts
  - High level structure of the brainstorming
    - Good candidate would recognize:
      - Women spend more on cosmetics than men
      - Purchases will vary by age and demographic
      - Amounts will vary per purchase
      - Multiple tiers of quality
      - Products will vary by season
      - Higher spend towards holiday season
      - Spend will vary by income level
  - Specific details:
    - Estimated US Market Size for 2019 is $23.5b
      - See next slide for market sizing approach
      - Structured approach is more important than answer but important to be directionally correct
    - Great answer: between 15 and 30 billion dollars
    - Good Answer: between 5 and 15 or 30 and 50 billion dollars
    - Bad Answer: Less than 5 or greater than 50 billion dollars

# Prompt 1: Market Size (Solution)

## Market Size Sample Solution:

- Here is a sample solution (Note: these numbers are not exact and this is only one approach):

**Assumptions**

| | | |
|---|---|---|
| US Population | | 360,000,000 |
| % Men in US | | 0.5 |
| % Women in US | | 0.5 |
| Average Annual Men's Skincare Spend | $ | 50 |
| Average Annual Women's Skincare Spend | $ | 200 |
| US Men's Population | | 180,000,000 |
| US Women's Population | | 180,000,000 |

| | 0-20 | | 20-40 | | 40-60 | | 60-80 | |
|---|---|---|---|---|---|---|---|---|
| US Men's Population (by Segment) | | 45,000,000 | | 45,000,000 | | 45,000,000 | | 45,000,000 |
| US Men's Addressable Population | 0.1 | 4,500,000 | 0.1 | 4,500,000 | 0.1 | 4,500,000 | 0.1 | 4,500,000 |
| US Women's Total (by Segment) | | 45,000,000 | | 45,000,000 | | 45,000,000 | | 45,000,000 |
| US Women's Addressable Population | 0.5 | 22,500,000 | 0.8 | 36,000,000 | 0.7 | 31,500,000 | 0.5 | 22,500,000 |

| | | |
|---|---|---|
| Total US Men's Addressable Population | | 18,000,000 |
| Average Annual Men's Skincare Spend | $ | 50 |
| Total US Men's Annual Skincare Spend | $ | 900,000,000 |
| Total US Women's Addressable Population | | 112,500,000 |
| Average Annual Women's Skincare Spend | $ | 200 |
| Total US Women's Annual Skincare Spend | $ | 22,500,000,000 |
| Total US Men's Annual Skincare Spend | $ | 900,000,000 |
| Total US Women's Annual Skincare Spend | $ | 22,500,000,000 |
| **Total US Annual Skincare Spend** | **$** | **23,400,000,000** |

# Prompt 2: Total Addressable Market

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## Prompt:

- Now that we have the market size for the US market, the client has asked us to look at just the US market for contract manufacturers. Can you brainstorm what different segments of this market, may or may not be addressable to contract manufacturers?

## Analysis:

- Analysis of brainstorming to have 2 parts
  - High level structure of the brainstorming
  - Specific detail
    - Good Candidate can think of 2
  - Here are a sample of potential answers:
    - MAJOR POINT: Total addressable market for skincare market is much higher than total addressable market for contract manufacturers because of skincare providers have substantial markup (i.e., to get to contract manufacturing total addressable market- remove the mark up)
    - Companies with big manufacturing arm wouldn't use a contract manufacturer
    - Companies that are super conscious about quality might not want to release control to a contract manufacturer
    - Companies do not want to release formulation
    - Cost is too high to contract manufacturer

# Prompt 3: Competitive Positioning (Exhibit 1)

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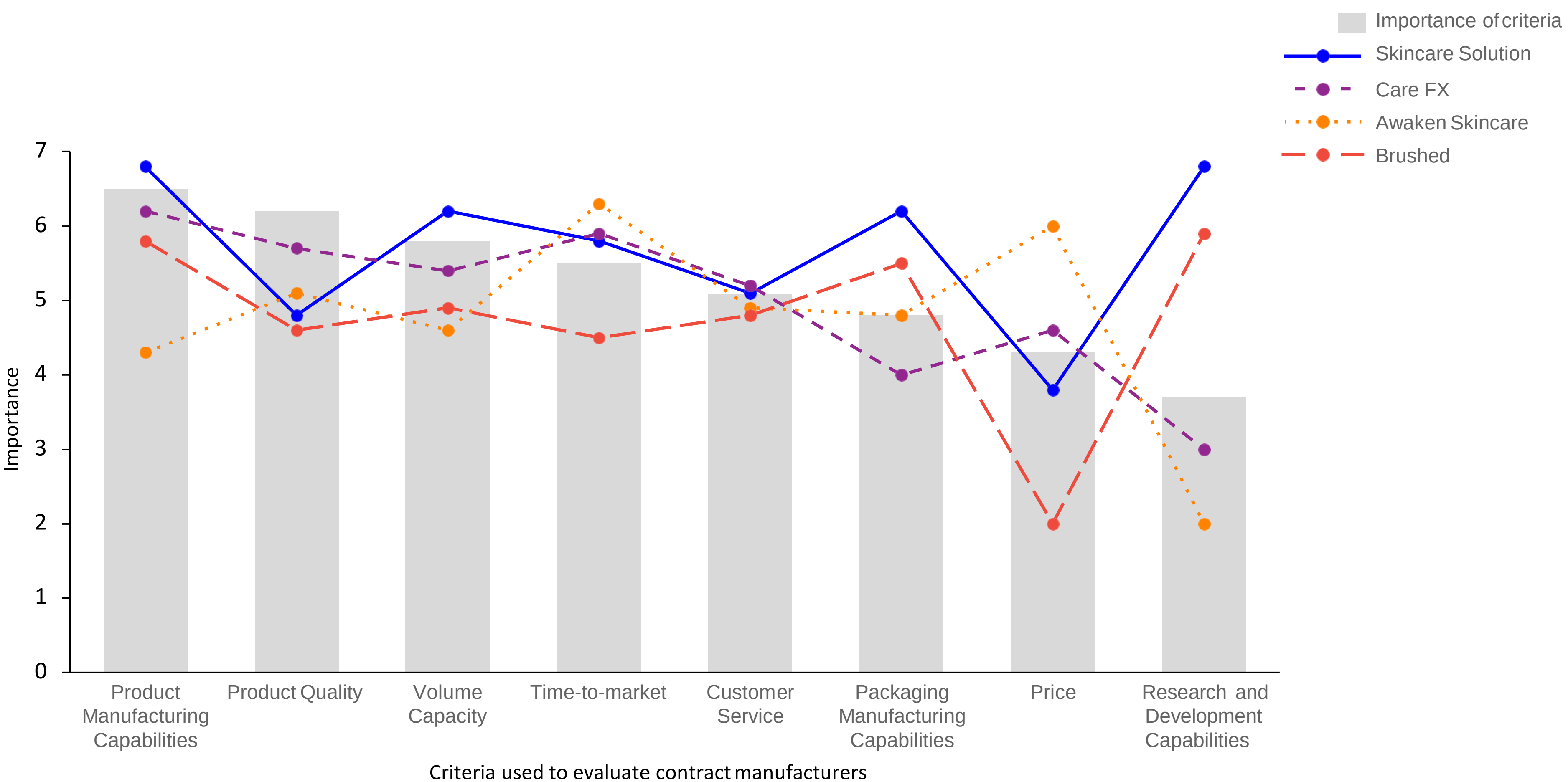
## Exhibit #1 Guidance:

- Now the client wants help understanding the competitive positioning of Skincare Solutions. We have completed a survey of various clients of different contract manufacturers.
- Hand over Exhibit 1

## Analysis:

- Analysis for the exhibit to have 2 parts:
  - Bars are aspects of the business ranked on a 1 to 7 scale in order of highest to lowest
  - Skincare Solutions is plotted against 3 competitors
  - Skincare Solutions is strongest in the most important and third most important categories
  - Fuqua Equity Partners isn't evaluating which company to buy- they are only looking to buy Skincare Solutions, this is just a comparison against its competitors
- Main Takeaway: Compared to its closest competitors, Skincare Solutions ranks higher in the categories that consumers deem most important.

# Exhibit #1: Survey results of client's of contract manufacturers



# Prompt 4: Recommendation/Next Steps

## Recommendation

- Fuqua Equity Partners wants your high level recommendation on the market and Skincare Solution's position and wants some suggestions on steps for Phase 2 of this project

## Risks and Next Steps:

- Recommendation:
  - Best answer: Hard to tell if market is attractive from this data but Skincare Solutions is well positioned in the market relative to closest competitors. [Ok if candidate says market looks attractive based on large market size]
- Phase 2 Steps: A good candidate will go back to their framework and list a few areas that we didn't touch. Other areas include:
  - Financials
  - Customer Analysis (i.e., % of revenue of top 10 customer)
  - Adjacency to products in the portfolio
  - Growth areas (particularly in the 5 year hold-period)

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | • Framework is unspecific (ignores PE aspect)<br>• Candidate can work through the math and gets to a reasonable market size but is unstructured in thinking<br>• Candidate provides only high level analysis of exhibit<br>• Recommendation does not consider phase 2 and next steps |
| Good Candidate | • Framework considers some specific and thinks through some PE specific criteria<br>• Candidate is structured in math and thinking<br>• Candidate provides good detail of exhibit<br>• Recommendation considers phase 2 but does not give next steps |
| Excellent Candidate | • Framework is specific and relevant to PE client<br>• Candidate is very structured in market size and shows good ability for public math<br>• Candidate is creative in brainstorming and quickly provides understanding of exhibit<br>• Candidate acknowledges this is Phase 1 and provides very detailed next steps for Phase 2 |

# Upper Goes South

| | |
|---|---|
| **Industry:** | **Tech** |
| **Case Type:** | **Market Entry** |
| **Led by:** | **Interviewee** |
| **Quantitative Level:** | **Medium** |
| **Qualitative Level:** | **Medium** |

# Behavioral Questions

**Question 1:**

- What would your former manager say about you?

**Question 2:**

- What would your ideal project at our firm look like?

# Upper Goes South

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1:

- Upper, a US-based transportation network company with $10bn in annual sales offering services that include peer-to-peer ridesharing, ride service hailing, and a bicycle-sharing system, is thinking about their possible growth opportunities. After leading the local market for 5 years, they are looking to expand in Latin America. Upper has engaged our firm to help them evaluate the different options and to choose which would be the best country to penetrate initially.

## Case Background:

- **Company information/Industry:** Upper operates in the ride hailing industry. Upper has only had operations in the US, and at the moment they are only evaluating Latin America (no other geographies) given that they are technologically superior to any incumbent. The industry is characterized for low number of competitors yet fierce competition among existing firms, given that the service is almost seen as a commodity.
- **Business model**: for ridesharing/hailing, Upper charges the rider a fee determined at the time of order, and then pays the drivers a fraction of the fee (similar to Uber or Lyft ridesharing). For the bicycle system, customers must scan a QR code that is on the bicycle, ride, and then "end" the ride by pressing a button on the app. The rider will then be charged a fee based on the time of usage and the distance covered.
- **Goal:** The best country would be the one that offers the largest profit over the next 3Y and, due to the complexity of the different countries, Upper would like to begin by penetrating ONLY one country.
- For their penetration in Latin America, they are looking to initially offer only ridesharing/hailing, and not bicycle-sharing. Assume there are no budget constraints at this time.

# Upper Goes South

## Framework Buckets:

- MECE Framework should include
  - Financials/Company
    - Investment needed
    - Potential revenues and costs
    - Potential effects on local (US) operations (management focus, etc.)
    - Opportunity cost of expanding elsewhere or doubling down in the US
  - Risks
    - FX/inflation risk
    - Security standards for both drivers and riders (lawsuits, PR impact)
    - IP theft
  - Market
    - Similarity to the US
    - Market size
    - Ease of doing business/political risk/etc.
    - Substitutes (public transportation availability, etc.)
    - Regulations (or lack thereof)
    - Competition

# Exhibit #1

- Upper has shortlisted the number of countries they would like us to evaluate:

| | Population (in M) | # of competitors[1] | Cultural similarity vs. US[2] | Security rank* | Cars per capita | Inflation rate |
|---|---|---|---|---|---|---|
| Brazil | 210 | 3 (55%) | ◔ | 116 | 0.35 | 5% |
| Colombia | 50 | 1 (100%) | ◑ | 143 | 0.12 | 3% |
| Argentina | 44 | 2 (60%) | ◕ | 75 | 0.32 | 57% |
| Uruguay | 3.5 | 0 (0%) | ◑ | 34 | 0.28 | 7% |
| Peru | 32 | 2 (80%) | ◑ | 80 | 0.08 | 2% |
| Chile | 18 | 5 (30%) | ◕ | 27 | 0.23 | 2% |
| Venezuela | 32 | 1 (100%) | ◑ | 144 | 0.15 | 1000% |
| Ecuador | 17 | 2 (75%) | ◕ | 71 | 0.14 | 0.50% |

[1] Number in brackets refers to market share of largest competitor
[2] The fuller the Harvey ball, the larger the similarity

*As a reference, the security rank of the United States is 49

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

- Idea is to find the best fit for Upper.
- Focus the candidate on these variables and tell them to focus on the investment level/financials later on.
- Population is in millions of people.
- Cultural similarity to the US refers to variables such as internet and Wi-Fi availability, penetration of smartphones and credit cards, culture of “sharing”, etc.
- If candidate asks about Uruguay, ask why they think there are no competitors (the answer is that, for the purpose of the case, ridesharing is illegal in that country).
- Leave the prioritization up to the candidate – the most important is the analysis of each variable and of the country as a whole. However, do mention that similarity to the US and low inflation will be key given that Upper is looking for the path with least resistance.

## Analysis:

- Population and cars per capita are proxies for market size and availability of drivers as well as riders.
- The number of incumbents is important, yet countries in Latin America have very few and this variable can be given less priority given the technological superiority of Upper, which would allow them to capture market share quickly.
- Given the importance of security, Upper wants to operate only in safe countries as incidents can have a very large impact on the overall reputation and potential for lawsuits.
- After analyzing the countries, the candidate should shortlist Chile, Ecuador, and Peru (not the largest market but relatively safe and similar to US, and low inflation)
- Argentina and Colombia could also be candidates (market size), but inflation in Argentina and unsafety in Colombia make them less attractive.

# Brainstorming

**Prompt:**

- Upper has decided to shortlist Chile, Ecuador, and Peru since, even though they are not the largest market, they are relatively safe and similar to the US, and have low inflation rates.
- Unfortunately, Upper has been following the latest news about a coup in Peru very closely and decided not to continue evaluating Peru.
- However, Upper has asked us to think about what are the potential consequences that a coup could have in any country they decide to operate in.

**Analysis:**

- Operational
  - Civil unrest
    - Increased traffic
    - Lack of driver availability
  - Changes in government can result in changes in regulation
- Financial
  - Decreased demand for rides
  - Bank closures (affecting cash flow)
  - Increased inflation (local currency depreciation) and volatility
- Candidate can take a minute to structure the brainstorming or it can also take the form of a conversation/discussion that touches upon some of the factors above. However, the conversation must remain structured.

# Exhibit #2

| | Investment | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| Chile | 1,500 | | | |
| Revenues | | 450 | 900 | 2,100 |
| Costs | | 150 | 300 | 900 |
| Ecuador | 1,300 | | | |
| Revenues | | 800 | 1,000 | 1,500 |
| Costs | | 200 | 500 | 700 |

All numbers are in millions.

# Interviewer guidance on Exhibits

## Exhibit #2 Guidance:

- All numbers are in millions.
- It is key that the candidate ask for exchange rates (interviewer can provide guidance if needed).
  - Exchange rate for Chile is 3 pesos per 1 USD (candidate needs to make conversion).
  - The currency in Ecuador is USD (no conversion needed).
- Candidate can ignore time value of money.
- Tax rate is 30% for Chile and 25% for Ecuador.
- Ignore losses tax carry forwards.

## Analysis:

| | Investment | 2020 | 2021 | 2022 | 3Y Pro |
|---|---|---|---|---|---|
| **Chile (USD)** | 500 | | | | |
| Revenues | | 150 | 300 | 700 | |
| Costs | | 50 | 100 | 300 | |
| Profit before tax | -500 | 100 | 200 | 400 | |
| Tax | 0 | 30 | 60 | 120 | |
| Net Income | -500 | 70 | 140 | 280 | **-10** |
| | | | | | |
| **Ecuador (USD)** | 1,300 | | | | |
| Revenues | | 800 | 1,000 | 1,500 | |
| Costs | | 200 | 500 | 700 | |
| Profit before tax | -1,300 | 600 | 500 | 800 | |
| Tax | 0 | 150 | 125 | 200 | |
| Net Income | -1,300 | 450 | 375 | 600 | **125** |

# Recommendation

## Recommendation

- The Chief Global Strategist of Upper has just called and is eager to know which country we recommend they enter first.
- Candidate should answer that Upper should start by entering Ecuador, and that we estimate that the 3-year profits will be $125M.

## Risks and Next Steps:

- Risks:
  - Candidate can refer back to framework:
    - Inflation risk can make “NPV” zero
    - Security standards for both drivers and riders can result in lawsuits and impact PR
    - IP theft
  - Incumbent response
  - Instability in the region (bonus points if refers to the “coup” in Peru)
- Next steps: deeper dive into incumbents’ strength, find partners that can provide local expertise, protect IP locally, set up monitoring infrastructure to capture market responses and knowledge that can be later implemented in other expansions.

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | Framework is not case-specific (candidate uses general growth framework and ignores the tech/Latin America aspect).<br>Candidate can work through the math but does not provide clarity in his thinking through Exhibit 1 and brainstorming. |
| Good Candidate | Framework considers some case-specific aspects and refers to them throughout the case<br>Candidate is able to identify the best countries through a clear selection process.<br>Few math errors. |
| Excellent Candidate | Candidate provides structure to the math and validates approaches with interviewer before working through.<br>Candidate has initiative to ask for FX rates, taxes, TVM, etc.<br>Candidate can make qualitative connections between the math, the case, and the exhibits. |

# High Strung

| | |
|---|---|
| Industry: | Entertainment |
| Case Type: | Profitability |
| Led by: | Interviewee |
| Quantitative Level: | Medium |
| Qualitative Level: | Difficult |

# Behavioral Questions

## Question 1:

- Discuss your most difficult ethical decision and how you arrived at a conclusion.

## Question 2:

- Tell me about a time when you had to reconcile being right with being a good teammate.

# High Strung

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1:

- The Carolina Symphony Orchestra is in trouble. Despite recently doubling down on marketing & advertising, the orchestra's profitability has consistently dropped for the last several years.
- The executive board has enlisted your help to diagnose the cause of this nosedive and reverse it.
- CSO must find a sustainable method to generate net-new profits over the next two years to hit its strategic growth goals.

## Case Background [provide if prompted]:

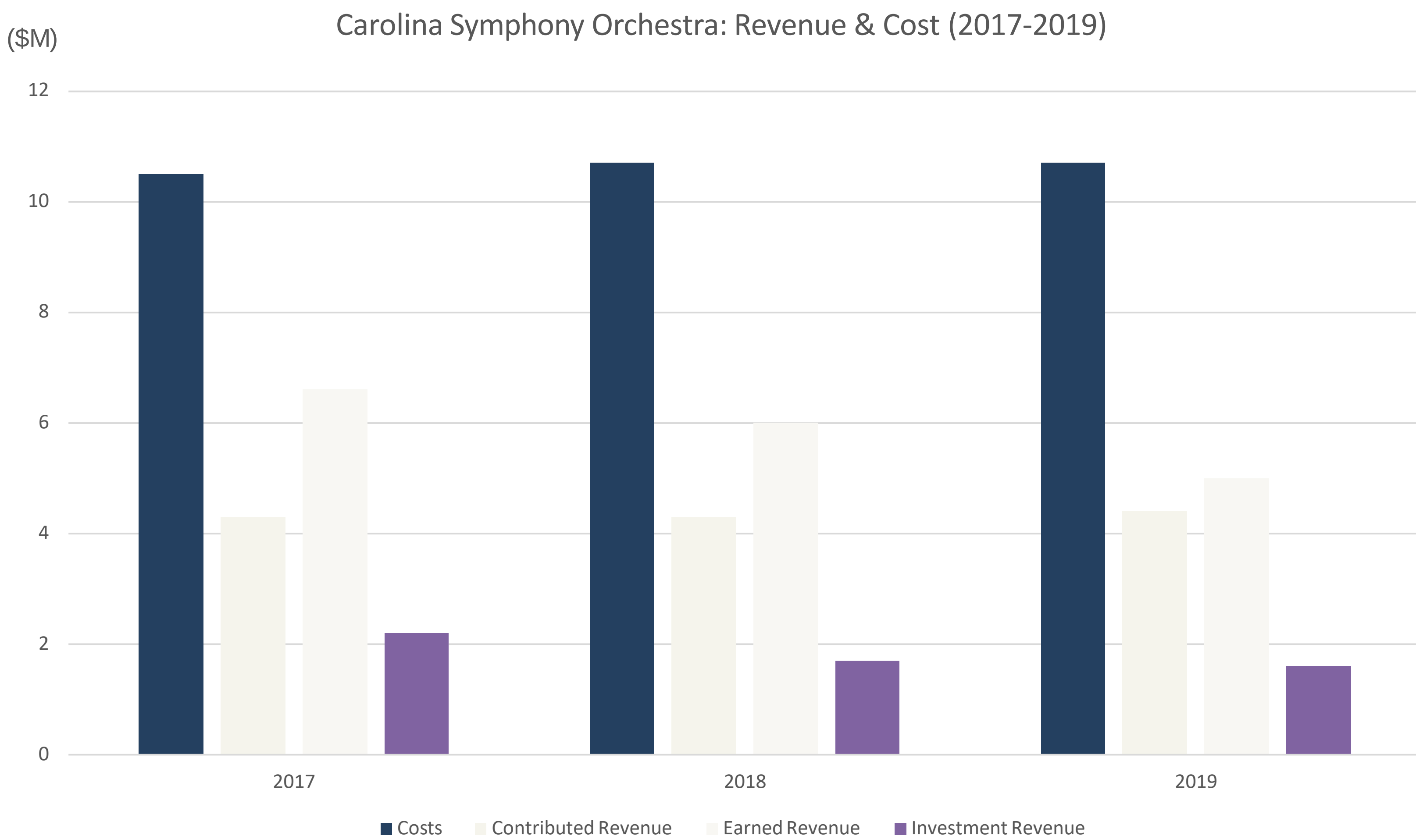
- Industry: the CSO is the only professional symphony in the area, but competes with other high-caliber entertainment providers; it plays mainly classical music but does incorporate some popular music
- Product: the CSO provides a range of offerings including group, single, and subscription tickets in addition to community education & engagement events and public concerts
- Value Chain/Revenue: revenue is split into three categories: earned (ticket & concession sales), contributed (donations, grants), and investment (securities)
- Audience: Main segment consists of older, wealthier consumers, although there is a burgeoning interest in the orchestra among younger subscribers.
- **Overall goal**: incremental profit of $3M over next two years

# High Strung

## Framework Buckets:

- Revenue Benchmarking
  - Revenue by type:
    - Earned: # of tickets & price, types of tickets (single, subscription),
    - Contributed: Size of average donation & frequency of donations
    - Investment: Types of holdings (stocks/bonds/funds) & portfolio distribution
- Cost Benchmarking
  - Fixed: facilities overhead, performer salaries, insurance
  - Variable: printed materials, concessions, booking fees
- Customer Profiling
  - Distribution of ticket holders by age, income level, visit frequency (etc.)
  - Brand awareness & product attractiveness to local customers (survey data)
- Competitive Analysis
  - % market share of local live entertainment market
  - Price benchmarking vs. similar live entertainment offerings
  - Industry best practices vs. current strategy

# Exhibit #1a


Carolina Symphony Orchestra: Revenue & Cost (2017-2019)
($M)
12
10
8
6
4
2
0
2017
2018
2019
Costs
Contributed Revenue
Earned Revenue
Investment Revenue

# Exhibit #1b

DUKE FUQUA SCHOOL OF BUSINESS

## Ticket Sales Data (2017-2019)

| | 2017 | | 2018 | | 2019 | |
|---|---|---|---|---|---|---|
| | # Tickets Sold | Avg. Ticket Price ($) | # Tickets Sold | Avg. Ticket Price ($) | # Tickets Sold | Avg. Ticket Price ($) |
| Single Attendance | 42,000 | 50 | 36,000 | 65 | 28,000 | 70 |
| Premium Subscription | 30,000 | 110 | 26,000 | 100 | 24,000 | 90 |
| Group | 14,500 | 50 | 14,000 | 50 | 14,000 | 45 |

# Interviewer guidance on Exhibits

## Exhibit #1a&b Guidance:

Exhibit 1a

- The candidate should identify right away that this case does not focus on cost issues
- If necessary, prompt candidate to identify main driver of revenue decline (major decreases YOY in earned revenue)
- Provide Exhibit 1b only when candidate asks for more granular data showing price/volume breakdown for earned revenue

Exhibit 1b

- Good candidates will immediately eliminate group ticket sales as a driver
- Strong candidates will notice that they must calculate the overall losses/gains for single attendance & premium subscription revenues to determine the primary driver
- Push candidate to think in terms of revenue impact if they become fixated on comparing by # of tickets sold only
- Once the candidate has identified subscription tickets as the main driver, prompt the candidate for a summary (if not given independently) and introduce the following brainstorm

## Analysis:

Exhibit 1a

- Basic analysis: operating change only slightly year to year ($10.6M□ $11.2M)
- Second-order insights: Even though investment revenue is decreasing overall, it does so at a slower rate than earned revenue (and with less overall impact)

Exhibit 1b

- Basic analysis: both single attendance & premium subscription ticket sales are declining YOY
  - ➢ Single attendance (# tix * average price):
    - $2.1M ❼ $2.34M ❼ $1.96M (Total Δ = -$140K)
  - ➢ Premium Subscription (# tix * average price):
    - $3.3M ❼ $2.6M ❼ $2.16M (Total Δ = -$1.14M)
- Second-order insights:
  - Subscription holders are the single largest revenue-generating customer segment
  - The price for subscription tickets and the number sold are both dropping: this could indicate either adverse price signaling or management fixation on pricing when revenue decline is caused by something else

# Brainstorming

## Prompt:

- "After reviewing your calculations, the board agrees that the subscription ticket holder category is mainly to blame for the eroding bottom line."
- "Based on this trend, what are some levers that the board could pull to boost the revenue generated by its subscription-holding patrons?"

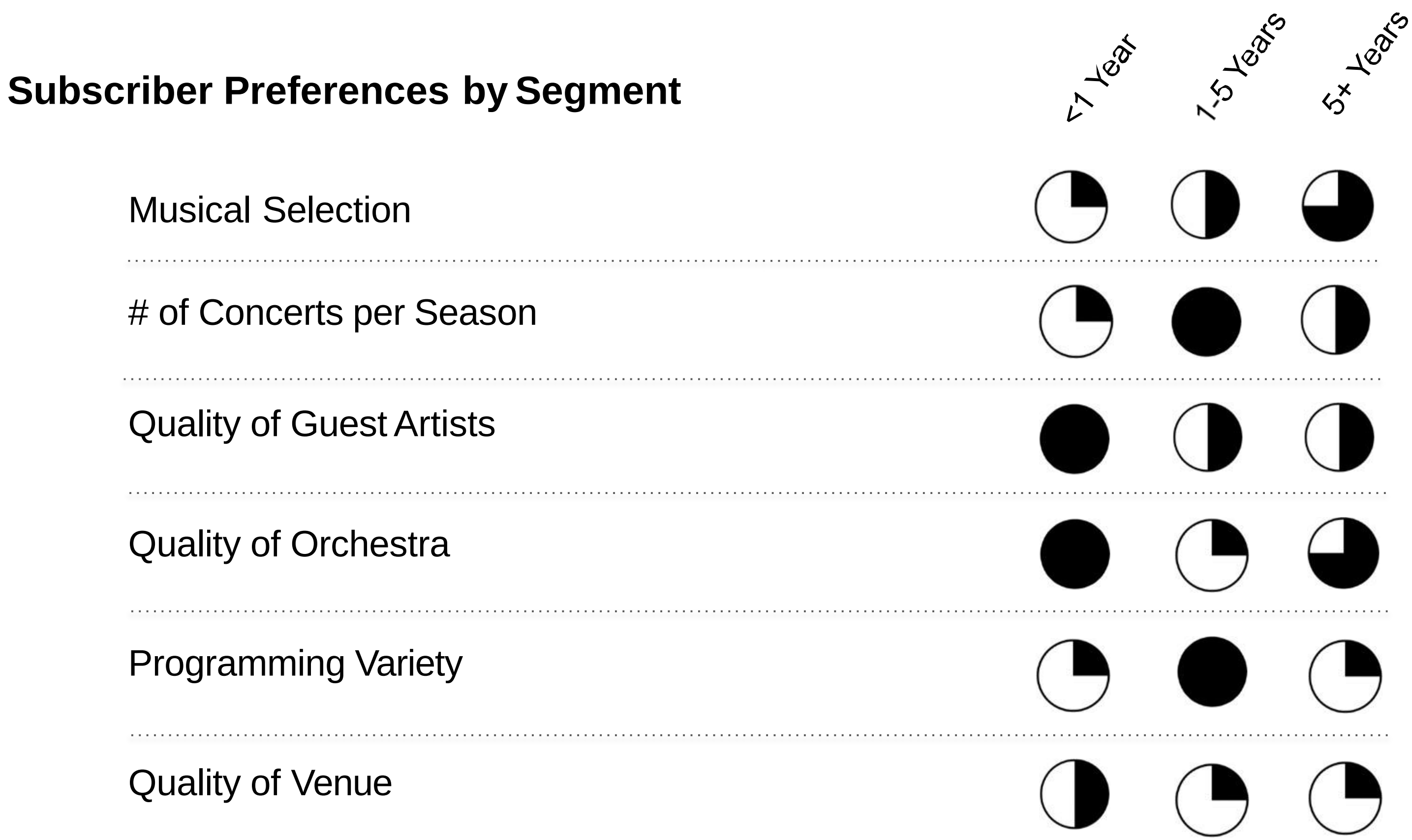
Guidance:

- After the brainstorm, provide exhibit 2a if the candidate independently identified subscriber preferences and/or asked for information regarding purchasing habits & preferences among subscription holders. If the candidate struggles, prompt them to consider what might be driving the downward trend in subscription-based revenue and steer them toward subscriber preferences

## Analysis:

- Good candidates will have noticed from the prior exhibit that management has consistently decreased subscription ticket prices and will avoid price slashing tactics
- General buckets:
  - Understand consumer base for subscription product - demographic of the population (families, age range, income level)
  - Survey subscription holders to determine the most important aspects determining purchasing behavior (e.g. programming, special guest artists)
  - Targeted marketing (e.g. social media, direct mail) to recapture business of former subscription holders
  - Subscription benefit review: add/expand concert offerings, include perks (e.g. lounge access, soloist meet & greets)
  - Price increase to reverse potential negative price signaling (decreased prices may have indicated to customers an initial overvaluing of subscription product)

# Exhibit #2a




**2019-2020 Subscriber Distribution**

| | |
|---|---|
| 5+ Years | 31% |
| 1-5 Years | 18% |
| <1 Year | 51% |

# Exhibit #2b

DUKE FUQUA SCHOOL OF BUSINESS

## Improving Orchestra Quality: Options

**Option #1:**
**Hire Renowned Conductor**

**Option #2:**
**Increase Principal Chair* Salaries**

| | ($M) | ($M) |
|---|---|---|
| Cost / Year | 1.5 | 0.5 |
| **Expected Revenue (Yr. 1)** | **3.0** | **2.0** |
| **Expected Revenue (Yr. 2)** | **3.5** | **2.5** |

*Note: Principal chairs are the leader for each orchestra section and are generally the highest-quality musicians in the ensemble.

# Interviewer guidance on Exhibits

## Exhibit #1a&b Guidance:

Exhibit 2a

- Each Harvey ball shows the percentage of each segment identifying the specific characteristic as a key driver of their patronage (to the nearest 25%)
- Good candidates will focus on "Quality of Orchestra" & "Quality of Guest Artists," while excellent candidates will hone in on Orchestra Quality since it is mathematically the most valued (see calculations at right)
- If the candidate struggles to identify Orchestra Quality, prompt them to consider qualitatively what new subscribers (technically the majority) want

Exhibit 2b

- Once the candidate has identified orchestra quality, provide this exhibit, which shows financial information for two options for improving orchestra quality as identified by the board (the candidate should recognize that this information will be required for an NPV calculation)
- If necessary, remind the candidate that the symphony needs $3M in profit over the next two years; provide an interest rate of 10%
- Good candidates will recognize that the options are equivalent and require only one NPV calculation; excellent candidates will identify a clear choice and justify their position

## Analysis:

Exhibit 2a

- Basic analysis: "Quality of Guest Artists" & "Quality of Orchestra" are the two obvious drivers based on the Harvey ball information alone
- Second-order insights: "Quality of Orchestra" is the more impactful factor than "Quality of Guest Artists"
  - Guest Artists: (1*31)+(0.5*18)+(0.5*51) = 65.5
  - Orchestra: (1*31)+(0.25*18)+(0.75*51) = 73.75

Exhibit 2b

- Basic analysis: Both options provide over $3M in NPV to the bottom line:
  - Conductor:

$$\frac{\$3.0M - \$1.5M}{(1+0.1)^1} + \frac{\$3.5M - \$1.5M}{(1+0.1)^2} = \$1.36M + \$1.65M = \$3.01M$$

  - Endowed Chairs:

$$\frac{\$2.0M - \$0.5M}{(1+0.1)^1} + \frac{\$2.5M - \$0.5M}{(1+0.1)^2} = \$1.36M + \$1.65M = \$3.01M$$

- Second-order insights: Both options are defensible from qualitative perspectives. For example, a conductor might in the near term establish more brand equity for the symphony, while increasing salaries for the best members of the orchestra attracts more stable investments over the long term

# Brainstorming (optional)

## Prompt:

- If the candidate independently identifies an optimal answer, prompt them to identify pros and cons of each option

## Analysis (Example Answers):

- Option #1: Conductor
  - Pros
    - A well-known name immediately provides a boost of visibility to the orchestra among target audiences
    - Hiring a famous conductor will likely inspire the orchestra members to a higher standard of musicianship
  - Cons
    - The search for a well-known conductor will likely be very costly and time-consuming
    - The musical community may reject the orchestra's choice of conductor
- Option #2: Principal Chair Salaries
  - Pros
    - Higher salaries motivate more skilled musicians to audition and retain positions
    - Greater control over potential expense and contract structuring
  - Cons
    - The orchestra may already have best-in-class principal chair musicians (less senior positions would benefit most from raises)
    - Increasing salaries for one group of musicians may have a domino effect on others

# Recommendation

## Recommendation

- “The symphony’s executive board is meeting this afternoon and wants to know your recommendation for meeting their expressed sustainability goal.”
- Good candidates will begin by clearly stating their preferred option and why it fulfills the goal of the client (meets $3M profit threshold in a 2 year time frame)
- Excellent candidates will provide qualifying information to support their choice over the other alternative

## Risks and Next Steps:

- Risks for each option should include at least some of the cons mentioned from the prior brainstorm (if completed). Both options suffer from the risk that the projected financial figures may be inaccurate; good candidates will recognize the link between this risk and the varied distribution of preferences across subscriber segments.
- Next steps for Option #1 (conductor): the orchestra might begin by formally announcing its search while hiring an industry headhunter to lead a targeted search. For Option #2 (salaries): the orchestra might assess all of the principal chair salaries and review past audition & performance information to determine how the increases should be distributed.
  - Both options would benefit from an internal benchmarking process to verify the validity of projected figures

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | Will identify the need to dive into either cost or revenue; requires some guidance on driving case forward; may struggle with exhibit #1b calculations but deliver directionally correct analyses |
| Good Candidate | Asks specifically for information that demonstrates whether cost or revenue is to blame; constructs a MECE framework; considers all information on exhibit; may struggle with driving the case on their own |
| Excellent Candidate | Delivers a well-reasoned hypothesis for the decrease in profitability; drives the case and shows independence; quickly absorbs information in exhibits and shows confidence with calculations; recognizes mathematical shortcuts (e.g. Exhibit #2b); gives succinct recommendation that ties back to the ultimate goal of $3M over next two years |

# Consulting Impact Consulting

Industry: Consulting
Case Type: Profitability
Led by: Interviewer
Quantitative Level: Difficult
Qualitative Level: Difficult

# Behavioral Questions

**Question 1:**

- Tell me about a time when you think you improved your leadership as a result of coaching

**Question 2:**

- Tell me about a time when you overcame your fear and drove impact as a result

# Consulting Impact Consulting

## Prompt #1:

- Your client “Impact Consulting” is a industry leader in Technology consulting globally. Over the last 3 years Impact consulting has grown its customer base but the overall profitability has reduced.
- The CFO has hired us to determine what factors are driving low profitability?

## Case Background:

**Client/Company information:** It is a multinational company and mostly has office in US and UK

**Product information:** Impact Consulting provides consulting and implementation services primarily in Cloud Products (like Microsoft Azure, Amazon AWS, Google Cloud etc.), Customer Relationship Management Products (like those used in Walmart/Target etc.), and Enterprise productivity products (like implementing Office 365 for companies).

**Revenue information** - Revenue has been stagnant in the last 3 years.

# Consulting Impact Consulting

## Framework Buckets:

**Internal**

i) Cost – Employee salary, Travel, Perks, Severance costs, Training, Health/Medical benefits etc.

ii) Pricing – High Discounts, Low billing rates compared to market

iii)Product – Lack of IP in custom solutions, Changing B2B products versions resulting in high training/talent costs etc.

iv) Delivery – Underestimate effort, Fixed vs. T&M Projects proportion, Inappropriate staffing, Quality issues resulting in free work for the clients

v)Organizational Factors – Labor Pyramid, Work Location (high cost country vs. low cost country), Deep Hierarchy resulting in delays, Effectiveness of Sales and Marketing etc., Lack of talent

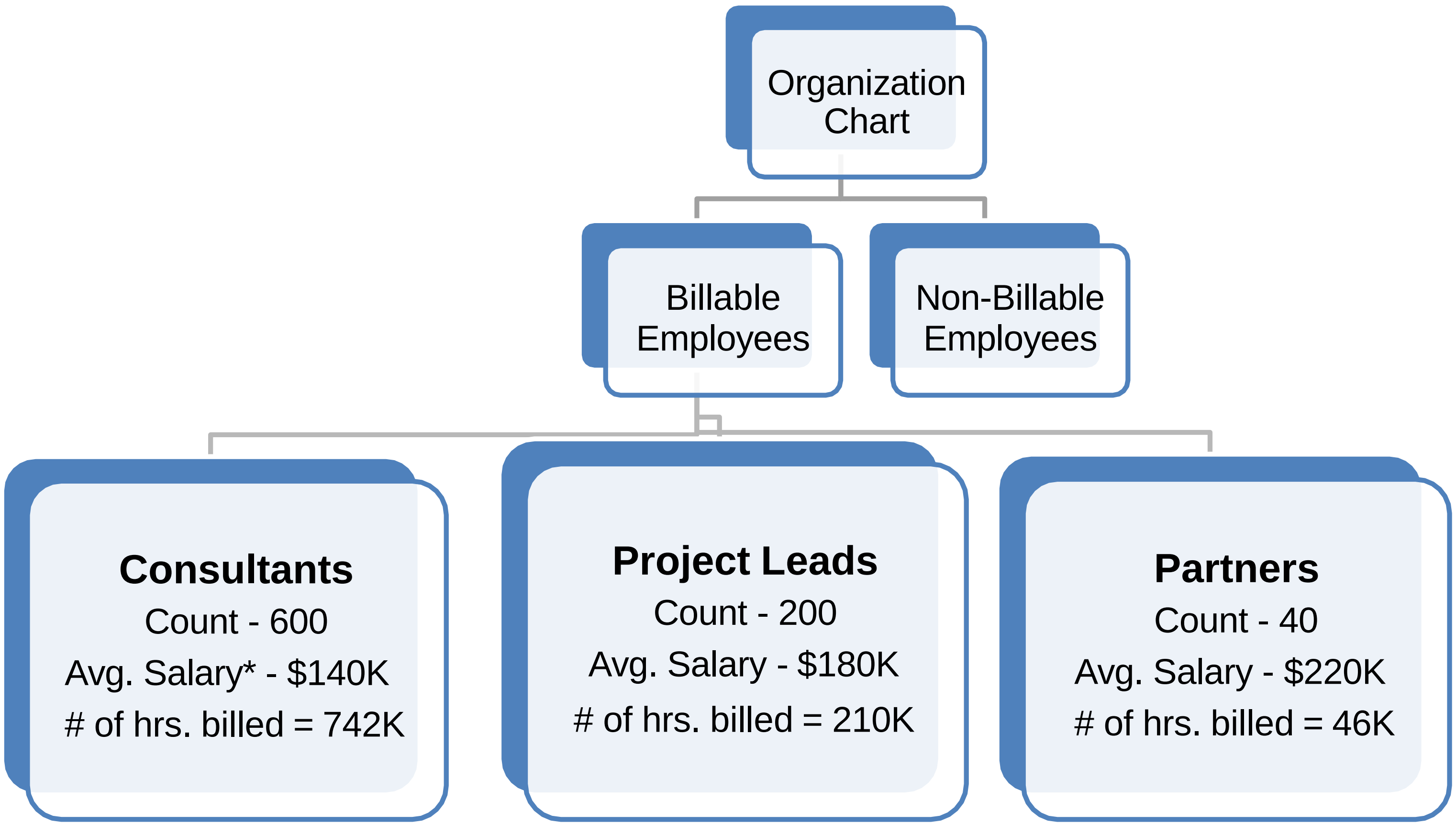
**External**

i) Competition – High competition resulting in reduced billing rates, higher quality expectations etc.

ii)Nature of engagements – Low ticket size engagements, clients increasingly having their own IT team resulting in delays due to coordination

# Exhibit #1a

## Impact Consulting Organization Chart

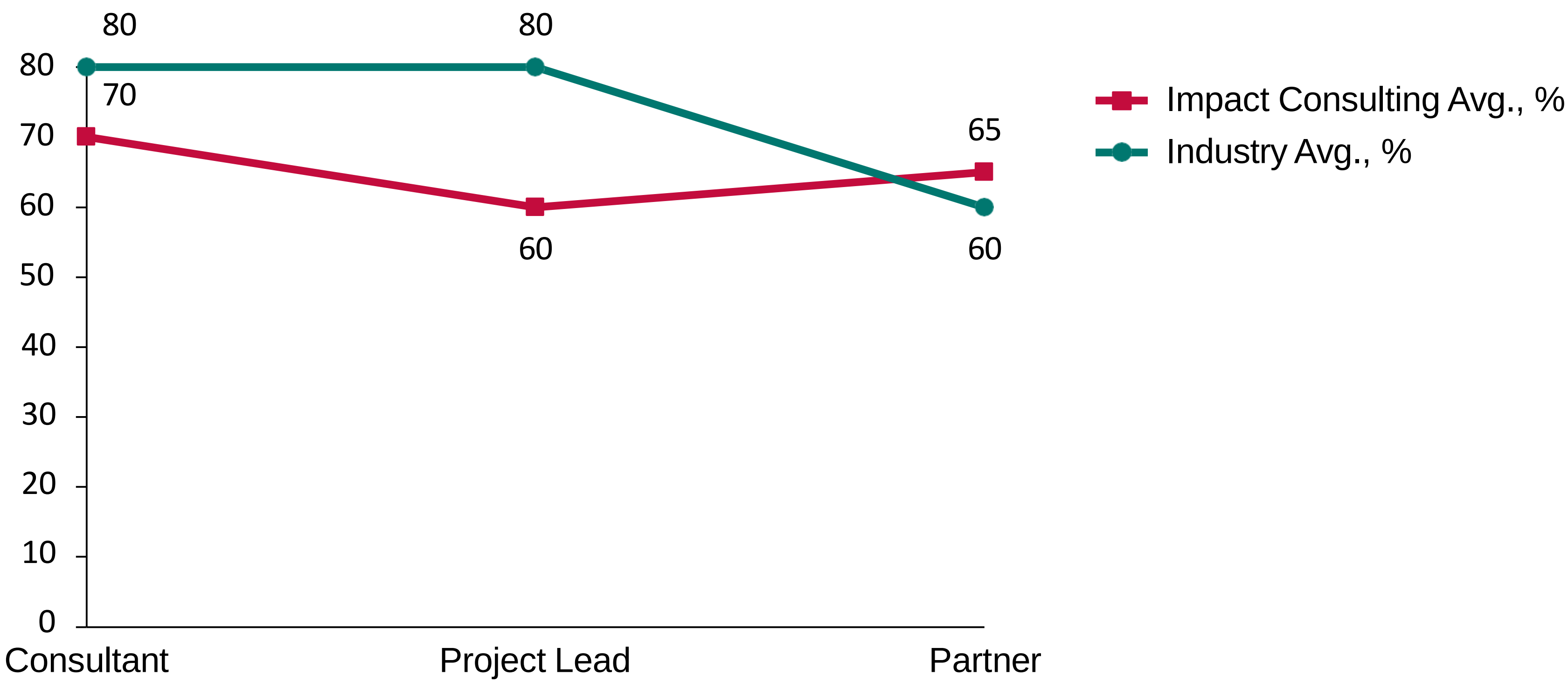



* Includes base + fringe cost

# Exhibit #1b

**Average annual billability* trends of employees**

Impact consulting vs. Tech Consulting Industry




* Average billability % refers to the % of total working hours where the employee is billable to the clients or brings revenue to the company

# Interviewer guidance on Exhibits

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt 1

Billability of employees has been a concern for the client over the last two years. Based on Data in Exhibit #1, what is the potential in $M for reducing cost through workforce reduction while meeting industry billing standards.

- ***Data to be provided upon asked:***

- Number of working days in a year = 220
- Number of working hours in a day = 8
- Candidate can assume that the revenue would not change this year and the number of billing hours would remain same

## Analysis:

**1st Order Insight:**

- Employee billability for Impact consulting is below industry standards specifically for Consultant and Project Lead roles.
- Increasing billability will result in surplus resources, and downsizing workforce will lead to savings
- The candidate must realize that the billability correction is only applicable for Consultants and Project leads as they are underperforming for Impact Consulting and not for Partners

**Calculation: (only for Consultant and PLs)**

**Total number of hours available with 80% billability = 80% * 220 *8 (target billability * #days * #hrs/day) = 1408 (~1400)**

# Consultants needed = 742,000/1400 =530

# Project Leads needed = 210,000/1400 = 150

**Cost Savings**

- Consultants = (600-530) * 140K = $9.8M
- Project Leaders = (200-150) * 180K = $9M

**Total Savings** = $18.8M

A great candidate will highlight the challenges in downsizing the workforce like analyzing business impact, timeline, retraining employees to help them become more billable etc.

# Interviewer guidance on Exhibits

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt 2

Currently all the employees of Impact consulting are based out of high cost countries like US, UK etc. How much cost savings in $M can be achieved if 20% of the consultants and project leaders are shifted to LCC (Low Cost Center)?

Note: 20% of the reduced workforce should be considered.

•Data to be provided upon asked:

Avg. Salary in LCC

- Consultants - $60K
- Project Leaders - $90K

## Analysis:

**<u>Calculations</u>**

Cost savings from

Consultants = 20%*530 *($140k-$60k) = 106*$80k = $8.48M

Project Leaders = 20%*150 *($180k-$90k) = 30*$90k = $2.7M

Total Savings = $11.18M

# Brainstorming

## Prompt 3:

- Low repeat customer rate has been an issue for Impact consulting over the last two years. What are some of the factors that you think is causing this problem.

## Analysis:

**Quality of Work**

Low quality of work in the past

Project delays

Communication gaps

Staffing irregularities

Quality of talent

**Changing Customer needs**

Customer need consulting in newer products

Invest in their own IT department

Expect lower price/higher discount

**Other Factors**

Increased Competition

Big companies like Microsoft having their own IT consulting team for their products

Lack of Relationship at higher levels

# Recommendation

## Recommendation

- The CFO is about to walk into the room, please provide them with a recommendation.

## Interviewer Guidance

- Recommendation will include:–

The client should aim towards increasing the billability of consultants and Project leaders to match industry standards. This will allow them to reduce workforce size and save $18.18M

They should also migrate 20% of the consultants and PLs to low cost countries and save $11.18M in addition.

- –Risks: reducing workforce should not impact existing business engagements -> It should be appropriately phased followed by retraining of employees to increase billability
- - Next steps: Identify low cost countries which have the right talent in the market and set up offices

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | • Framework touches on only a few of the case components<br>• Guidance is required multiple times for brainstorming and/or working through exhibits<br>• Insights are not driven from qualitative factors in addition to the quantitative calculations |
| Good Candidate | • Discusses all aspects of improving profitability and understands how consulting industry operates<br>• Calculations are quick and sound<br>• Makes clear, confident recommendations based on information presented |
| Excellent Candidate | • Framework is customized to tech consulting<br>• Proactively thinks about how increase in billability will lead to reduction in workforce<br>• Asks about total available hours to calculate billability<br>• Notes risks of preferred strategy |

# A B-e-a-utiful Case

| | |
|---|---|
| Industry: | Consumer Goods/Beauty |
| Case Type: | Growth strategy |
| Led by: | Interviewer |
| Quantitative Level: | Medium |
| Qualitative Level: | Medium |

# Behavioral Questions

DUKE FUQUA SCHOOL OF BUSINESS

| **Question 1:** |
| --- |
| Tell me about a time you had to make a difficult decision on a team |

| **Question 2:** |
| --- |
| Tell me about the experience that has grown your leadership skills the most to-date |

# A B-e-a-utiful Case

## Prompt #1:

- SkinDeep is a U.S based skincare company headquartered in Austin, TX. SkinDeep currently offers a wide variety of skincare products such as face wash, face lotion, sunscreen, lip balm, makeup remover, etc. The brand is considered to be high end/luxurious but reasonably affordable. The company primarily serves women between age group 20 – 65. Recently, the company has been trying to answer the following question: What is the best strategy to grow profits?

## Case Background:

- **Client/Company information**
  - Company manufactures and sells all products in the U.S. only, but is open to expanding abroad
  - Products are currently sold exclusively online
- **Industry/Competition information**
  - The skincare industry is currently experiencing growth, specifically the natural skincare segment
- **Financial information**
  - SkinDeep is open to the idea of launching a new product as a way of growing if it translates to at least a 10% growth in the existing profit base; no budget/capital constraints
  - 2018 profit was $600M

# A B-e-a-utiful Case

## Framework Buckets:

- Internal & external are good broad buckets to begin to structure ways to grow profits
  - Below are some ideas for each bucket but the list is not exhaustive. Be sure to note candidate creativity in framework!
- Potential ideas associated with **internal growth**:
  - Increase prices/decrease costs
  - Encourage additional purchases from existing customer base
    - i.e. a rewards program, increasing frequency and mediums of marketing communication
  - Introduce a new product
- Potential ideas associated with **external growth**:
  - Acquire a new product or skincare company
  - Begin to offer products abroad
    - An excellent answer might suggest an abroad market with reasoning
  - Expand channels products are offered
    - i.e. beauty stores such as Sephora, Ulta, Bluemercury

# Brainstorming

## Prompt:

- Some leadership at SkinDeep thinks the best starting point for a growth strategy is to encourage additional purchases of existing products from the existing consumer base
- What are some ways SkinDeep could achieve this type of growth?

## Analysis:

- Analysis of brainstorming to have 2 parts
  - Specific details (not an exhaustive list)
    - Introduce a loyalty program with points for purchase
    - Personalize shopping experience that includes new product recommendations
    - Revamp personalized digital communication so that consumers that haven't made a purchase within a certain amount of time are invited back
    - Send personalized notes to top 15% of consumer base
    - Ensure "cart reminders" are enabled for those that add something to a shopping cart but don't purchase
    - Expand distribution channels to more than exclusively online
    - Ideas to segment customers by common characteristics (age, region, etc.) and customize communication

# Brainstorming

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt:

- Given the industry growth in the natural skincare segment, SkinDeep's CEO wants to explore launching a product in this category
- What are some potential issues associated with introducing a new natural skincare product

## Analysis:

- Analysis of brainstorming to have 2 parts:
  - High level structure of the brainstorming
    - Consumer issues
    - Product issues
  - Specific details (list is not exhaustive)
    - **Consumer issues**
      - Lack of trust in new product if it's a new segment for company
      - Issue raising consumer awareness for new product once launched
      - New product could cannibalize existing sales
    - **Product issues**
      - Could be expensive to make sure product is safe/ready for market
      - Lack of R&D/expertise in making natural products
      - Market competition could limit success
      - Could have distribution channel issues
        - » i.e. late deliveries, damaged products

# Math – Market Sizing: Question

- Provide the candidate with the below information:
  - SkinDeep wants to know the **potential yearly profit associated with launching a face mask for women ages 20-80 in the natural skincare segment**.

- Interviewer notes:
  - Do not show the candidate the solution
  - On the solution where it reads "*provide to candidate*", do so *if* asked
    - Try to wait until candidate asks if there is additional information to provide
    - If candidate is lost try to offer structure guidance

# Math – Market Sizing: Solution

DUKE FUQUA SCHOOL OF BUSINESS

| | | | | | | |
|---|---|---|---|---|---|---|
| | U.S. Population Size | 300 | million | | | |
| | Percent Women | 50% | | | | |
| | Number of women in the U.S | 150 | million | | | |
| | U.S Age Ranges | 0-20 | 20-40 | 40-60 | 60-80 | |
| | Number of Women in each age range (even distribution) | 38 | 38 | 38 | 38 | |
| *Provide to candidate if asked* | Age Ranges of focus (years old) | **20-40** | **40-60** | **60-80** | | |
| | Number of women in each age range | 40 | 40 | 40 | encourage rounding to 40 | |
| *Provide to candidate if asked* | Percent of women interested in a natural skincare face mask | 10% | 15% | 25% | | |
| | Number of women interested in a natural skincare face mask | 4 | 6 | 10 | =number of women in each age range * percent of women interested in a natural skincare face mask<br><br>million -- **encourage rounding** | |
| *Provide to candidate if asked* | Percent of women SkinDeep thinks it could cature from overall market | 25% | 33% | 20% | | |
| | Number of women that will buy a SkinDeep natural face mask | 1 | 2 | 2 | = % market that could be captured * number of women interested in a natural skincare face mask<br><br>million -- **encourage rounding** | |
| *Provide to candidate if asked* | Number of SkinDeep mask purchases per year per woman per age group | 1 | 2 | 1 | | |
| | Price per mask | $20 | $20 | $20 | | |
| | Cost to produce each mask | $10 | $10 | $10 | | |
| | Margin | $10 | $10 | $10 | | |
| | Potential yearly profit per age range | $10 | $40 | $20 | = # of women that will buy * number of mask purchses per year per woman * margin | |

| | |
|---|---|
| **Total potential profit per year from new natrual skincare mask** | **$70 milion** |

# Recommendation

## Recommendation

- The CEO has just walked in and would like an update on our findings, could you synthesize our conversation?
  - The skincare industry is in a growth phase primarily driven by natural skincare
  - SkinDeep has the opportunity to grow annual profits by $70M by launching a natural skincare face mask
    - This $70M in annual profit meets the company's new product launch criteria (10% growth in existing profit base ❼ 10% of $600M = $60M)
  - Additionally, ideas growing sales of existing products with existing customers could be executed in parallel (creating a loyalty program, increasing number of distribution channels)

Medium

## Risks and Next Steps:

- Risks
  - Unknown risk of cannibalizing existing product profits
  - Actually capturing the consumer base from market size calculation
  - Pressure on margins if cost increases due to commodity prices of natural ingredients
- Next steps
  - Capability assessment to know if SkinDeep has expertise to develop and launch product in new segment
  - Cannibalization assessment
  - Determine point of sale and promotion plan

# Telco Towers

Industry: Telecommunications
Case Type: Growth strategy
Led by: Interviewer
Quantitative Level: Medium
Qualitative Level: Low

# Behavioral Questions

| Question 1: |
| --- |
| Why “x” city? [Note: fill in the “x” with the city they are recruiting for – Chicago, Dallas, etc.] |

| Question 2: |
| --- |
| Tell me about a time you had to persuade your team members of your opinion on a matter? |

# Telco Towers

## Prompt #1:

Telco Towers is a cell tower company in the United States which leases space on its towers to wireless providers (i.e. AT&T, Verizon, etc.) who install their respective antennas / technology on its towers. With the advent, and expansion, of 5G across the country, Telco Towers is locked into a contract to upgrade its suite of towers to support 5G technology and now needs a strategy to grow its business to cover the cost of upgrading its towers.

## Case Background:

- Client/Company information
  - Leasing to wireless providers is currently Telco Towers sole form of revenue
- Industry/Competition information
  - Fragmented market overall with new competitors entering the market and providing rental space on towers for a fraction of Telco Tower's price; eroding the margins on these types of leases
  - Wireless providers are also pursuing their own tower builds to minimize costs
- Product information
  - Telco Towers has ~20K towers across the United States (**note to interviewer:** this is not critical to case)
- Value Chain/Revenue information
  - Rental space is charged per antenna installed by the lessee; each antenna can support service to a certain number of households so at times the lessee needs multiple antennas to support service to all of its customers in a given area
- Any constraints on the case
  - The contracts and costs to upgrade the towers have already been signed and are therefore not negotiable at this point

# Telco Towers

## Framework Buckets:

Note, important to de-prioritize costs in framework given build expense will be the same regardless. Want to focus on new business revenue opportunities. Once cleared, inform them we have information on potential new customers in our footprint.

### Revenues

#### Existing Business

- Adjust pricing
- Sign current customers to new leases on other towers
- Extend term of existing contracts

#### New Business

- Identify new customers
- Identify new use cases for which businesses may need to rent tower space (Fixed Wireless Access)

### Costs

#### Fixed

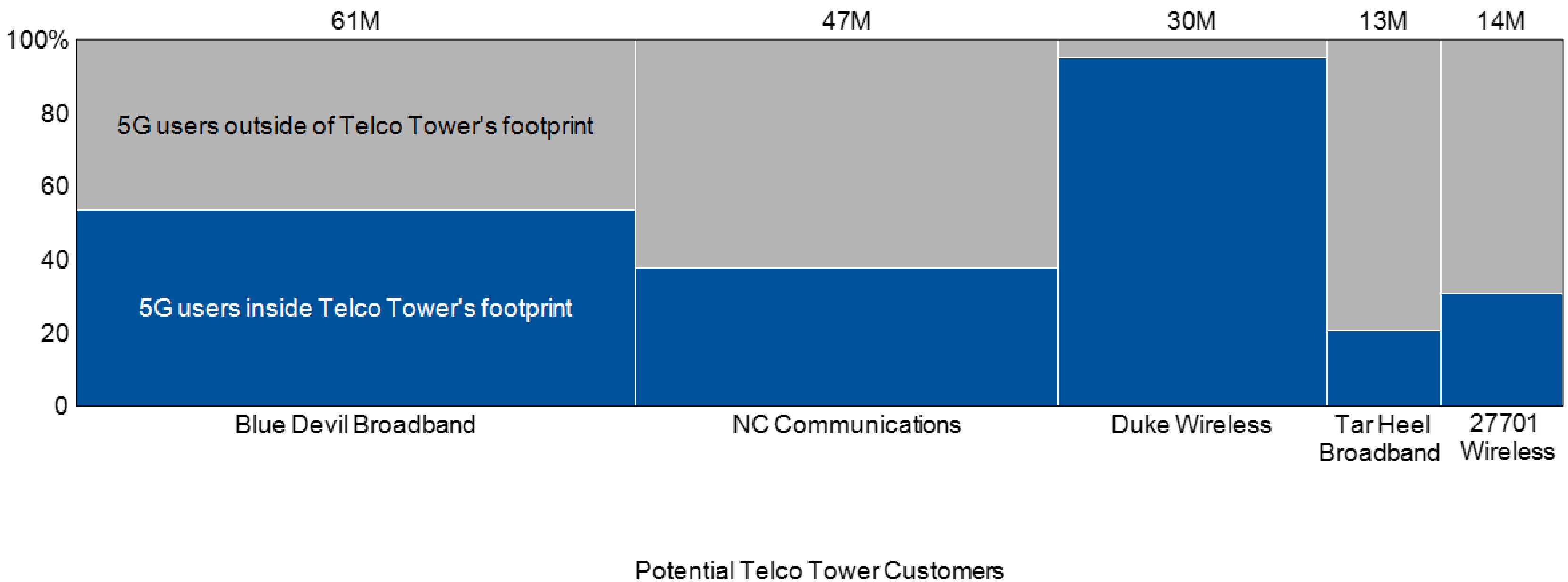
- Salaries
- Utilities
- Rent
- Property Taxes
- Expense of upgrading towers to 5G

#### Variable

- SG&A

# Exhibit #1

5G users reached by potential Telco Tower customer



# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

Interviewee should identify that this graphic will help them **size the opportunity** (starting with identifying the company with the greatest number of users inside Telco Tower's footprint).

**Blue Devil Broadband is largest opportunity by number of users** in Telco Tower's footprint. This company is a start-up providing upgraded 5G fixed broadband to household's and is therefore a new use case for Telco Towers.

**Push the interviewee to think about what other types of information they would need to size this!**

**Additional Statistics Needed to Size Revenue Opportunity:**

Avg. # of People per Household: **5**
# of Households per Antenna: **1,200**
Telco Tower's monthly charge per Antenna: **$1,500**

## Analysis:

Basic Analysis (# customers inside Telco Tower's footprint by company)

*Note: encourage interviewee to round where logical as seen below, except do not round on "Duke Wireless" calculation*

Blue Devil Broadband: 50% * 60M = **30M**
NC Communications: 40% * 50M = **20M**
Duke Wireless: 95% * 30M = **28.5M**
Tar Heel Broadband: 20% * 15M = **3M**
27701 Wireless: 30% * 14M = **4.2M**

Calculation of annual revenue opportunity pursing tower rental to Blue Devil Broadband

30M (users in Telco Tower / Blue Devil footprint) / 5 (people per household) = **6M households**
6M (households) / 1,200 (households per antenna) = **5K antennas**
5,000 (antennas) * 1,500 (monthly charge per antenna) = **$7.5M per month**
$7.5Mper month * 12 = **$90M per year**

# Brainstorming

| **Prompt:** | **Analysis:** |
|---|---|
| What non-financial factors should we consider when considering partnership with these companies? | Ideas for Brainstorm Answers<br>Viability of business model (start-ups vs. strong-holds in the space)<br>Likelihood to win partnership<br>Existing connections / relationships with each company<br>Share of business Telco Towers is likely to win (95% with Duke Wireless but only 50% with Blue Devil Broadband?)<br>Rental capacity available on existing towers (enough to service certain customers?) |

# Telco Towers

## Recommendation

Telco Tower's should pursue a lessor/lessee partnership with Blue Devil Broadband. In addition, Telco Tower's should consider simultaneously pursuing a similar arrangement with the other companies with sizeable customer bases in our footprint (Duke Wireless and/or NC Communications) assuming the capacity exists on its towers.

## Risks and Next Steps:

- Potential Risks:
  - Decrease in quality of service to existing customers given increase of usage on the towers through the addition of new customers
  - Lose RFP / partnership proposal to cheaper competitor in the marketplace
- Next Steps:
  - Schedule a meeting with leadership at Blue Devil Broadband (possibly also Duke Wireless and/or NC Communications)
  - Test reasonability of our monthly pricing against competitors in the space to ensure we're offering a competitive price point at $1,500 per month per antenna

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| **Average Candidate** | • MECE framework (might be missing a few items)<br>• Needs a lot of input/direction from interviewer to clear exhibit<br>• No self-guidance into the market sizing calculation<br>• Difficulty identifying even 1 – 2 additional considerations around partnership during the brainstorm |
| **Good Candidate** | • MECE framework<br>• Clears exhibit with minimal guidance from interviewer<br>• Puts the market sizing calculation in motion with assistance from interviewer<br>• Identified half or more of additional considerations during the brainstorm |
| **Excellent Candidate** | • Includes but de-prioritizes costs in the framework given additional information provided on where Telco Towers is in the contracting/upgrade process<br>• Clears exhibit with no issues<br>• Structures the math (asks for inputs) for market sizing<br>• Identifies most (if not all) of the additional considerations during the brainstorm |

# To port or not to port?

| | |
|---|---|
| **Industry:** | **Consumer** |
| **Case Type:** | **Go / No go** |
| **Led by:** | **Interviewee** |
| **Quantitative Level:** | **Difficult** |
| **Qualitative Level:** | **Medium** |

# Behavioral Questions

| Question 1: |
| --- |
| Have you dealt with a difficult boss? Explain how you managed the situation. |

| Question 2: |
| --- |
| Tell me about a time when you failed. |

# To port or not to port?

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1:

Our client, Beertastic Ventures, is a global beverage manufacturer, specializing in producing beer and cider. They've been approached with an opportunity to purchase Portalicious Enterprises, a port manufacturer based in Porto, Portugal. Port is a sweet, fortified wine, made from 2/3 wine and 1/3 brandy. To be considered a true port, the grapes must come from the Douro Valley (a UNESCO World Heritage Site), a region not far from Porto, Portugal, where the wine must be made. Beertastic operates manufacturing facilities in Asia, the US, Europe, and Australia. Portalicious has manufacturing facilities in Porto and vineyards in the Douro Valley.

Our client needs your help to figure out whether it should acquire Portalicious.

## Case Background:

- Beertastic's financial objective is to at least breakeven by the end of year 2.
- Beertastic Ventures is a medium-sized player in the global beer market.

# To port or not to port?

## Framework Buckets:

An excellent framework touches on the following areas:

***Financial Analysis***

Mentions at least one valuation methodology; bonus if interviewee asked specifically how the company intended to value the acquisition and tailored framework to breakeven approach

Revenue + Cost Analysis is thorough and tailored to port-making specifically

How to fund the investment

***Market Analysis***

Supply: Examines external factors, such as competition; acknowledges rarity of owning land in UNESCO World Heritage Site

Demand: Segments market by different types of customers or locations; mentions understanding of current and future customer demand for port wine

***Operational Analysis***

Mentions operational efficiencies that could be leveraged via existing resources

Questions culture and management compatibility between Beertastic and Portalicious

# Exhibit #1

## Port Global Market, Forecasted Growth and Portalicious Market Share

| Market | 2018 Revenue[1] | 2 Year CAGR | 2020 Market Share |
|---|---|---|---|
| North America | 200 | 10% | 10% |
| Europe | 200 | -5% | 4% |
| Asia | 75 | 40% | 35% |
| Australia | 25 | 20% | 75% |

[1]in millions

# Interviewer guidance on Exhibits

## Exhibit #1 Guidance:

Provide exhibit 1 once the interviewee has identified the need to review the revenue forecast for Portalicious

The objective is to calculate the total forecasted revenue for Portalicious for the upcoming 2 years based on the markets' 2-year CAGR and Portalicious' market share

If the interviewee asks to round, please mention that it is important to be accurate in this calculation, so he/she must proceed with the numbers provided

Yearly revenue is in millions

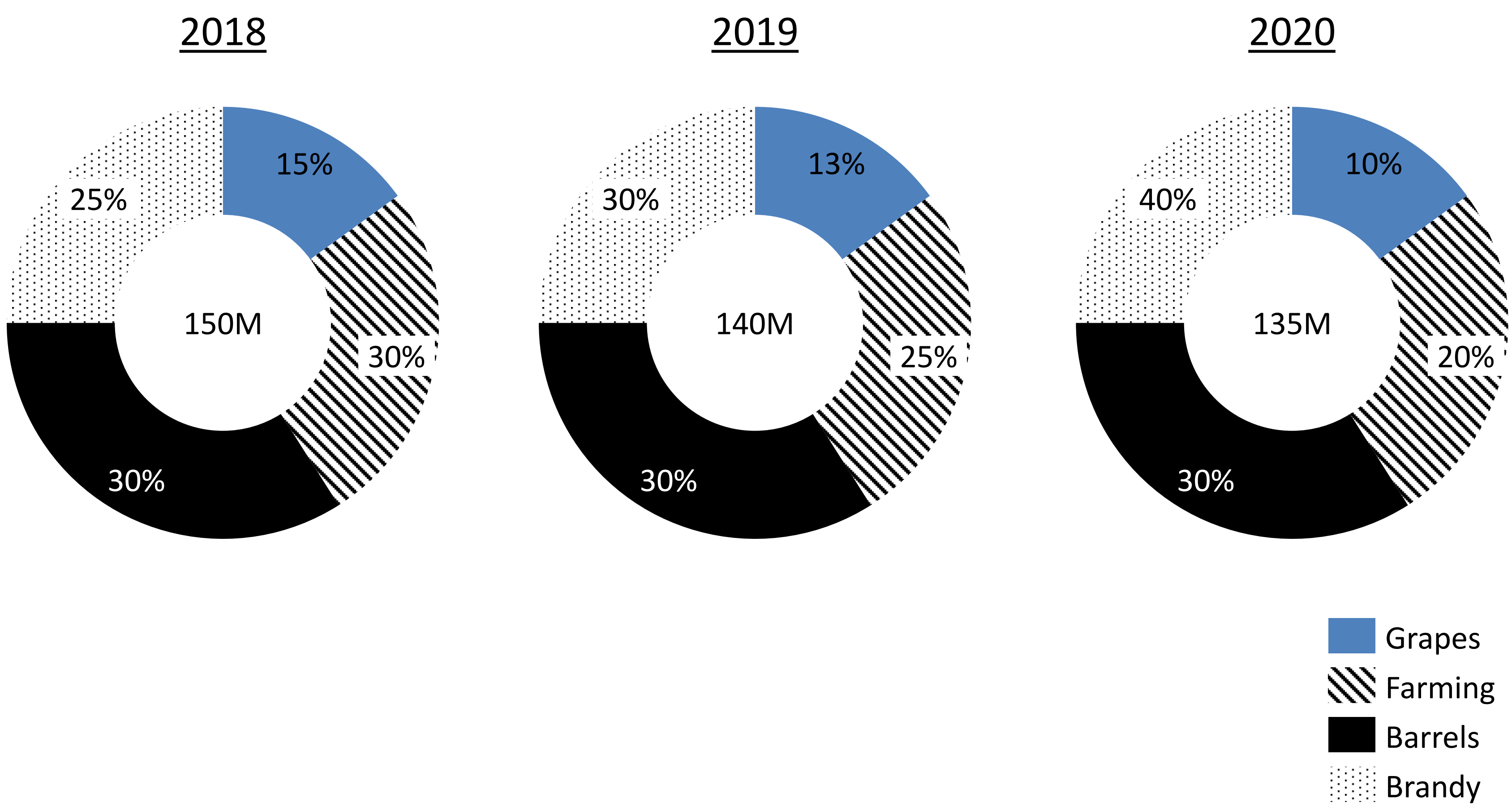
## Analysis:

| Market | Yearly Revenue | 2 Yr. CAGR | Revenue Yr 1 | Revenue Yr 2 | Total Revenue |
|---|---|---|---|---|---|
| North America | 200 | 10% | 220 | 242 | 462 |
| Europe | 200 | -5% | 190 | 180.5 | 370.5 |
| Asia | 75 | 40% | 105 | 147 | 252 |
| Australia | 25 | 20% | 30 | 36 | 66 |
| | | | | | **1,150.5** |

| Market | Total Revenue | Mkt Share | Revenue |
|---|---|---|---|
| North America | 462.0 | 10% | 46.20 |
| Europe | 370.5 | 4% | 14.82 |
| Asia | 252.0 | 35% | 88.20 |
| Australia | 66.0 | 75% | 49.50 |
| | | | **198.72** |

# Exhibit #2

## Future Portalicious Variable Cost Breakdown



# Interviewer guidance on Exhibits

## Exhibit #2 Guidance:

Provide exhibit 2 once the interviewee has identified the need to review the cost forecast for Portalicious

The insight the interviewee should take from the analysis is that Brandy is not only becoming a greater cost percentage of the manufacturing process, but also a higher nominal cost

The interviewee should calculate the dollar value of each of the cost buckets and the total annual cost.

A strong candidate will calculate the expected profit from the endeavor, given revenue from the prior page.

They should also identify that this is expected to be a profitable business.

## Analysis:

| | 2018 | | 2019 | | 2020 | |
|---|---|---|---|---|---|---|
| **Brandy** | 25% | $37.50 | 30% | $42.00 | 40% | $54.00 |
| **Barrels** | 30% | $45.00 | 30% | $42.00 | 30% | $40.50 |
| **Farming** | 30% | $45.00 | 25% | $35.00 | 20% | $27.00 |
| **Grapes** | 15% | $22.50 | 15% | $21.00 | 10% | $13.50 |
| **Total Cost** | | $150.00 | | $140.00 | | $135.00 |

| | |
|---|---|
| Total Revenue | $198.72 |
| Total Costs | $135.00 |
| Expected Profit | $63.72 |

# Brainstorming

**Prompt:**

The interviewee should identify that brandy is a growing source of cost concern from Exhibit 2. Guide them to this, if necessary. After, ask the interviewee the following question:

What can Beertastic Ventures do to control and reduce the price of Brandy?

**Analysis:**

A good answer will acknowledge several creative ways to control prices. A great answer will be highly structured and thorough.

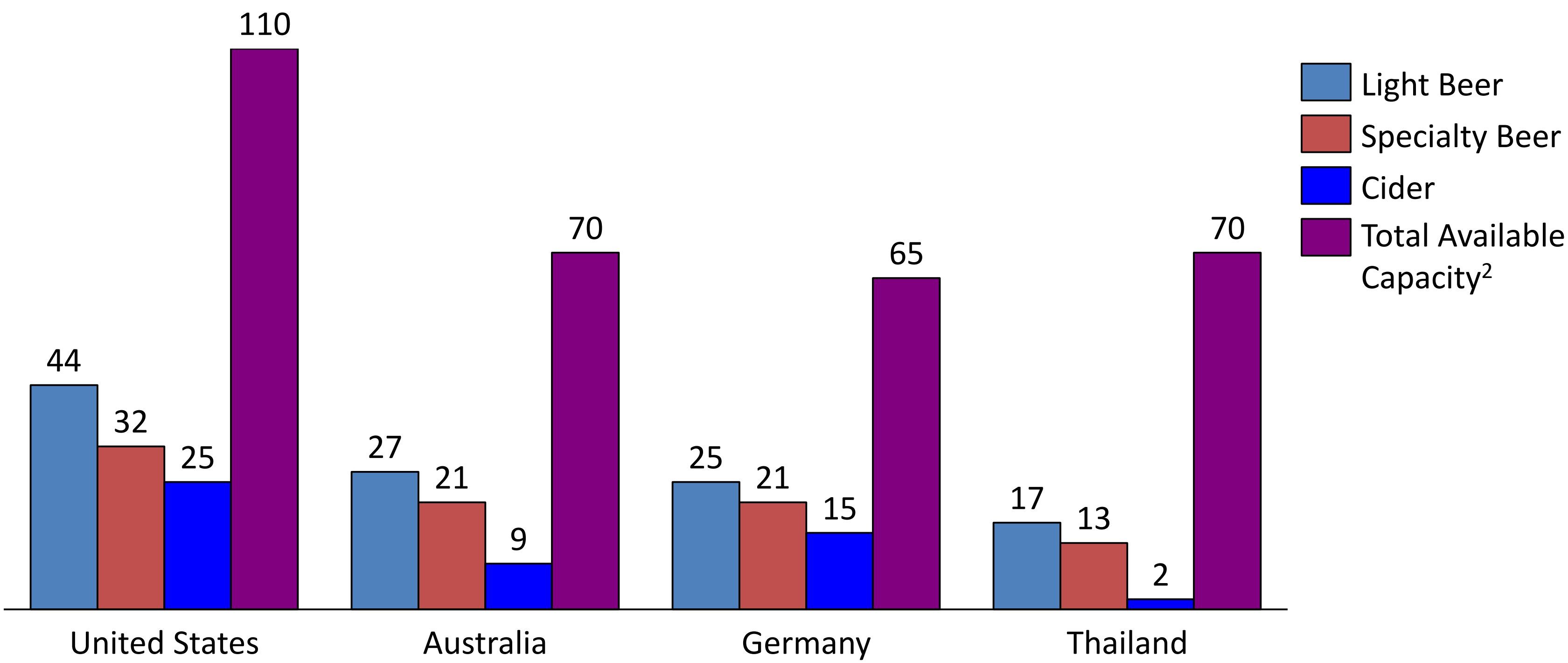
Some potential responses include:

-Vertically integrate the production
-Acquire a brandy producer
-Hedge the price of brandy
-Hedge prices on raw materials for brandy production and create a JV with a manufacturer
-Source from several suppliers; engage in price negotiation
-Buy in bulk

# Exhibit #3

DUKE FUQUA SCHOOL OF BUSINESS

## Beertastic Manufacturing Capacity[1]




[1]Monthly barrel capacity in thousands (000s). [2]"Total Capacity" refers to the total volume of barrels each plant can produce regardless of the product.

# Interviewer guidance on Exhibits

## Exhibit #3 Guidance:

Provide exhibit #3 once the interviewee has identified the possibility of vertically integrating brandy production

The objective is to identify if the manufacturer has enough capacity to insource the Brandy production

The interviewee should ask what's the Brandy capacity needed by AB Port's production – **Tell them *25,000 and 31,000 for the next two years respectively***

The interviewee should highlight that Thailand has the greatest capacity and can absorb the total production needed for Port production

## Analysis:

| | US | MX | GER | Thailand |
|---|---|---|---|---|
| **Total Capacity** | 110 | 70 | 65 | 70 |
| **Light beer** | 44 | 27 | 25 | 17 |
| **Specialty beer** | 32 | 21 | 21 | 13 |
| **Cider** | 25 | 9 | 15 | 2 |
| **Excess capacity** | 9 | 13 | 4 | $\boxed{38}$ |

# To port or not to port?

## Recommendation

The interviewee should recommend acquiring the port manufacturer, given that it is expected to remain profitable over the next two years. Operationally, Beertastic should consider vertically integrating brandy production, specifically given the excess production capacity in their Thailand facility.

## Risks and Next Steps:

- This is somewhat risky, given that Beertastic would need to learn how to produce brandy. Beertastic should explore all available options and do a cost/benefit analysis of integrating brandy production.
- Given the strong growth in Asia, the firm should explore additional opportunities for revenue potential
- Need to assess compatibility with Portalicious' culture and management teams
- Need to perform sensitivity analysis on the forecasts and go through a due diligence process

# To port or not to port?

| Candidate Level | Assessment |
| --- | --- |
| Average Candidate | Calculates expected future revenue and costs accurately; gets to brainstorm with some guidance |
| Good Candidate | Additionally recognizes the need to calculate profit; requires minimal guidance |
| Excellent Candidate | Quickly recognizes the need to deliver both profitability and operational efficiency; appropriately identifies risks and integrates them into recommendation |

# Don’t break the bank

| | |
|---|---|
| Industry: | Financial Services (Credit Cards) |
| Case Type: | Revenue maximization |
| Led by: | Interviewee |
| Quantitative Level: | Medium |
| Qualitative Level: | Difficult |

# Behavioral Questions

| Question 1: |
| --- |
| Tell me about a time you failed |

| Question 2: |
| --- |
| Tell me about a time you solved a problem with a creative solution |

# Don't break the bank: Prompt 1

## Prompt #1:

Our client, Hudson Bank, is an online bank that plans to launch a new credit card product within the next six months. They have asked us to help them determine a pricing model that will maximize their revenues.

## Case Background:

- Two core customer segments: Transactors and Revolvers. Transactors pay off their entire credit card balance each month, whereas Revolvers leave a balance remaining month to month
- Our client generates credit card revenue three ways: 1) Merchant Fee, 2) Annual Percentage Rate (APR), and 3) Annual Fee
- If the interviewee asks about costs, mention that the cost structure is the same regardless of the pricing strategy, so the interviewee should focus on revenues
- Competition is very strong in this space, so finding the right pricing strategy is critical
- Our client offers other lending products such as personal and student loans; however, our sole focus is around their new credit card product

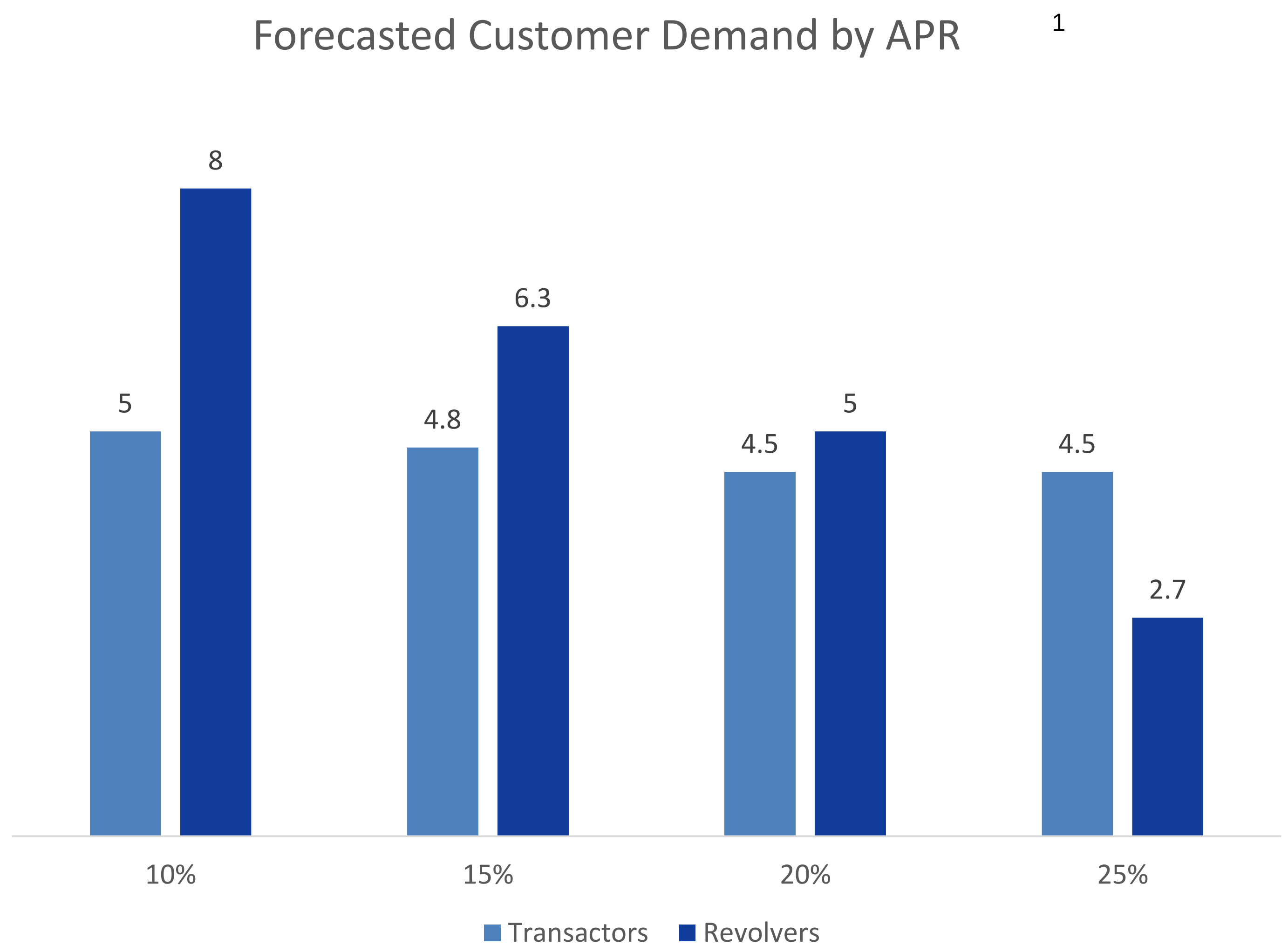
# Potential framework

**Framework Buckets:**

Potential framework buckets:

- Customers: Understand target customer/customer segments and create customized pricing strategy to maximize revenues and/or loyalty programs (e.g., cash back, refer a friend)
- Competition: Benchmark industry standards to determine range in pricing strategies
- Company: Understand Hudson Bank’s risk appetite (i.e., prime, sub-prime) and if there is potential for cannibalization of existing financial products
- Technology: Long-term scalability of new customers on credit card platform
- Regulatory environment: UDAAP/CFPB restrictions on potential pricing strategies
- Revenue streams: APR, annual fee, late fees, merchant fees, etc.

# Exhibit #1




[1] Units in 000s

# Interviewer guidance on Exhibit 1

| Exhibit #1 Guidance: | Analysis: |
|---|---|
| Provide customer segment definitions to interviewee if you have not already<br>*Hudson bank has two core customer segments: Transactors and Revolvers. Transactors pay off their entire credit card balance each month, whereas Revolvers leave a balance remaining month to month*<br>The two customer groups are required to have the same pricing model in order to mitigate regulatory risks during the first year of operation<br>Forecast is only for the first year after launching the card | Interviewee should recognize that Transactors are relatively price inelastic, while Revolvers are not<br>Interviewee should inquire about loan balances and/or alternative revenue streams in order to determine the optimal pricing strategy<br>Once interviewee has recognized they require additional customer behavior data/revenue stream data, move to Prompt 2 |

# Don’t break the bank: Prompt 2

## Prompt #2:

In addition to APR revenue, our client gets 2% on merchant fees (i.e., 2% multiplied by the transaction amount per card swipe) in addition to a $100 Annual Fee per customer.

## Additional data to be provided upon request:

- The anticipated average annual credit card balance is $5K. Interviewee should assume that the APR revenue will be generated at an annual rate, not monthly
- Forecasted average transaction amount is $100 with an expectation of 25 swipes per customer in the first year
- Annual fees cannot be adjusted because these funds will be used to cover the operational costs associated with servicing each customer
- Merchant fees will not be adjusted in order to balance Hudson Bank’s merchant acceptance rate of their new card with the strong competitive landscape

# Interviewer guidance on Prompt

## Prompt #2 Guidance:

**Data to provide interviewee, if not requested:**

1) Annual fee = $100, 2) Average loan balance = $5,000
3) Merchant fee = 2%, 4) Average Transaction Amount = $100 , 5) Average annual transactions = 25

**Quantitative Approach:**

1) Multiply customer segments by 1,000 to convert units
2) Multiply total customers by $100 to get **Annual Fee Revenue** (by APR bucket)
3) Calculate **Revolver APR Revenue** ($5k*# Revolvers by APR*APR)
   A strong interviewee will recognize that the 25% APR can be ruled out based on the low Revolver demand
4) Calculate **Merchant Fee Revenue** (# total customers by APR bucket * $100 avg transaction amount * 25 monthly transactions * 2% Merchant Fee)
   A strong interviewee will recognize this is half the value of the Annual Fee revenue
5) Calculate **Optimal APR** by summing data from steps 2-4 (Annual Fee Revenue + APR Revenue + Merchant Fee Revenue)
   A strong candidate should ask about expected growth rates beyond the first year. Our client is most interested in the first twelve months following the credit card launch

## Analysis:

**Starting with Exhibit 1 data:**

*1. Convert units (multiply segments by 1K)*

| | Transactors | Revolvers | Total customers |
|---|---|---|---|
| 10% | 5,000 | 8,000 | 13,000 |
| 15% | 4,800 | 6,300 | 11,100 |
| 20% | 4,500 | 5,000 | 9,500 |
| 25% | 4,500 | 2,700 | 7,200 |

*2. Annual Fee Revenue (multiply segments by $100)*

| | Transactors | Revolvers | Total Annual Fee Revenue |
|---|---|---|---|
| 10% | $ 500,000 | $ 800,000 | $ 1,300,000 |
| 15% | $ 480,000 | $ 630,000 | $ 1,110,000 |
| 20% | $ 450,000 | $ 500,000 | $ 950,000 |
| 25% | $ 450,000 | $ 270,000 | $ 720,000 |

*3. APR Revenue (# Revolvers by APR * $5k loan balance * APR)*

| | Transactors | Revolvers | Total APR Revenue |
|---|---|---|---|
| 10% | 0 | $ 4,000,000 | $ 4,000,000 |
| 15% | 0 | $ 4,725,000 | $ 4,725,000 |
| 20% | 0 | $ 5,000,000 | $ 5,000,000 |
| 25% | 0 | $ 3,375,000 | $ 3,375,000 |

*4. Merchant Fee Revenue (total customers * $100 transaction * 25 swipes * 2%)*

| | Transactors | Revolvers | Total Merchant Fee Revenue |
|---|---|---|---|
| 10% | $ 250,000 | $ 400,000 | $ 650,000 |
| 15% | $ 240,000 | $ 315,000 | $ 555,000 |
| 20% | $ 225,000 | $ 250,000 | $ 475,000 |
| 25% | $ 225,000 | $ 135,000 | $ 360,000 |

*5. Optimal APR = 20% (sum three revenue streams by APR)*

| | Transactors | Revolvers | Total Revenue |
|---|---|---|---|
| 10% | $ 750,000 | $ 5,200,000 | $ 5,950,000 |
| 15% | $ 720,000 | $ 5,670,000 | $ 6,390,000 |
| 20% | $ 675,000 | $ 5,750,000 | $ 6,425,000 |
| 25% | $ 675,000 | $ 3,780,000 | $ 4,455,000 |

**Optimal APR = 20% with $6.425M in expected revenue**

# Brainstorming

## Prompt:

What other factors should Hudson Bank consider before finalizing their pricing strategy?

## Analysis:

**Potential factors to consider:**

Optimal APR pricing (i.e., 20%) considerations:

- 20% creates a higher risk of default during economic downturns. Additionally, 15% APR generates similar amounts of revenue
- Forecast is only for next year, does not consider change in consumer preferences/expected growth
- Competitors with lower APRs, no annual fees, and/or lower merchant fees may dominate space
  - Understand how our client will become the "top of wallet" card with this pricing model

Alternative pricing considerations:

- Cash back bonus/customer loyalty programs to increase new customer base (a strong interviewee will note the recent trends with these programs)
- Customize the credit card pricing strategy by customer segments (a strong candidate will note regulatory concerns tailored pricing models)
- Promote lower APRs for cross-sell customers (i.e., customers who have another loan/account with Hudson Bank) to increase customer base
- Strategy to increase number of swipes and/or average transaction amount for Transactors

# Don’t break the bank

## Recommendation

The General Manager of Hudson Bank’s credit card division will be joining us shortly and would like to hear your recommended pricing strategy

## Risks and Next Steps:

- The interviewee should begin synthesizing their findings:
  - The revenue-maximizing APR for Hudson Bank is 20%, capturing 9,500 customers who are forecasted to generate $6.425M in revenue during the first year. Another acceptable recommendation is 15% because it generates $6.39M in revenue and brings in 1,600 more customers. This may also generate less risk for Hudson Bank during economic downturns.
  - Risks associated with recommended pricing strategy
  - Next steps to mitigate associated risks

# Don’t break the bank

| Candidate Level | Assessment |
|---|---|
| Average Candidate | Will consider profitability instead of revenue, fail to drive case, make arithmetic mistakes, forget details, and fail to put numbers into context. An average candidate might need to be reminded of the pricing criteria. |
| Good Candidate | Will develop a custom and complete framework, make accurate but slow calculations, will remember details and put everything into context |
| Excellent Candidate | Will develop a structured and MECE framework, complete quick and accurate calculations, remember to ask about the potential growth rates beyond the first year, put numbers into perspective, and will drive the case forward at each step |

# Activist Action

Quantitative level: Difficult
Qualitative level: Difficult

# Behavioral Questions

| Question 1: |
| --- |
| Leadership skills can help develop the relationship with a client. Can you share an example where you led a group and what the outcome was? |

| Question 2: |
| --- |
| When have you had to convince someone to change their mind? Were you able to do it and if so how? |

# Activist Action

## Initial Prompt

Your client is a large CPG company with multiple business units including snacks, beauty, and home (cleaning) products. Your client is under pressure from a high-profile activist investor that has built a 7% stake in the company. The client has asked you to help predict the new investors likely demands that could increase stock price or company performance. What are your ideas to deliver short-term and long-term value back to the shareholder?

Activist Investor background: An individual or group that purchases large amounts of a public company's shares and/or tries to obtain seats on the company's board with the goal of effecting a major change in the company. The investor benefits when equity prices rise significantly or dividends are paid.

## Case Guidance

This case challenges the candidate to think from an investor and company perspective, then balance the short-term and long-term objectives. Success requires the candidate to correctly evaluate the financial options and give a recommendation that is operationally realistic.

## Interviewer Guidance – Initial Prompt Q&A

Guide the candidate through the case. Provide the additional information if requested:

- Large business in North America. The client operates in ~70 countries.
- Revenue: Snacks $19B, Beauty $31B, Home $29B; EBITDA: $24B - **Target Savings: $10B**
- This investor likely has influence on the board and <u>cannot be ignored</u>.

# Activist Action

## Interviewer Guidance: Framework

This case is meant to have interviewer guidance. Provide little guidance for advanced candidates.

**An activist investor is looking for an increase in stock price, and the client is looking for this plus long-term success.** Frameworks should incorporate some of the following:

**Short-term Value**

- Sell a business unit (split off a whole business, brand, or geography)
- Cost save (delayer company, shut-down plants)

**Long-term Value**

- Restructure product supply, move to low-cost countries

Allow the candidate to drive the case and explore. Award bonus points for strong options that may create shareholder value. Make sure the candidate understands what an activist investor is targeting and the likely time horizon (1-2 years).

It is important to acknowledge that the activist may want short-term actions that the company would disagree with due to long-term repercussions.

# Activist Action

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #1 – Supply Chain Restructuring

The partner on this case talked to the product supply (manufacturing) contact at the client who provided a supply chain restructuring opportunity. Do you think this is a viable option to satisfy the activist investor and the client? (provide Exhibit #1)

## Interviewer Guidance – Prompt #1 and Exhibit #1

The candidate should realize that a NPV calculation is necessary but <u>should approximate using the graph</u>. NPV calculation is below as a reference.

| Supply Chain Restructuring | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 | 5 |
| Cost Schedule | $ | 500 | 2,000 | 2,500 | 700 | 200 | 0 |
| Savings Schedule | $ | - | 0 | 1,000 | 1,500 | 7,500 | 15,000 |
| | | | | | | | |
| FCF | $ | (500) | -2,000 | -1,500 | 800 | 7,300 | 15,000 |
| Discounted FCF | $ | (500) | -1,818 | -1,240 | 601 | 4,986 | 9,314 |
| | | | | | | | |
| Assume Discount Rate | | 10% | NPV | | $ 11,343 | | |

A strong candidate will realize the <u>savings are too far out for an activist investor</u>. Regardless of the NPV, this project should be secondary to a short-term strategy.

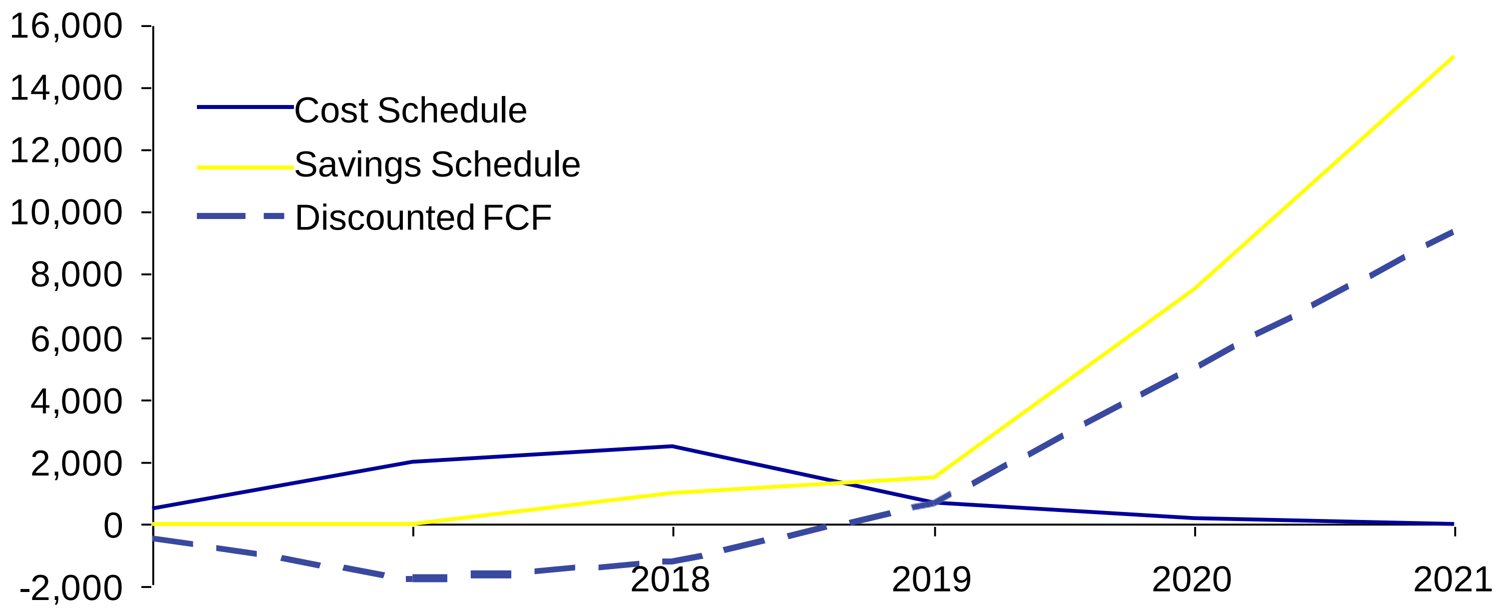
Once this option is deemed insufficient read Prompt 2.

# Exhibit #1

## Supply Chain Restructuring

| ($M) | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|---|
| Cost Schedule | $500 | 2,000 | 2,500 | 700 | 200 | 0 |
| Savings Schedule | $0 | 0 | 1,000 | 1,500 | 7,500 | 15,000 |

Note: All affects of depreciation and change in net working capital are included in the costs and savings schedule.



# Activist Action

## Prompt #2 – Low Cost Countries

The client mentioned that other companies have successfully used low cost sourcing. The example companies effectively moved or rehired functions from developed regions to countries like India, China, or Brazil. Do you think the options in Exhibit 2 can meet the client's needs for the snacks business?

## Interviewer Guidance – Prompt #2 and Exhibit #2

The low cost options are unlikely to meet the client needs because it threatens long- term operation. This prompt is meant to test the candidates ability to structure open- ended questions (a common part of final round interviews with partners)

Strong candidates should realize these are poor solutions. Guide the candidate as necessary and move to prompt #3 when candidate realizes other savings are needed.

| Area | ($B) | Suggested Solution |
|---|---|---|
| Marketing | 8.2 | **Unlikely**: Marketing and R&D are necessary for innovation. It is difficult to find top talent in developing countries. Also, the client has a large North America based business. |
| R&D | 12.3 | |
| Manufacturing | 21.7 | **Not Feasible**: CPG snack products are inefficient to ship long distances usually. Outsourcing could hurt trust in brand. Additionally, we just saw a major manufacturing project would take too long. |
| Sales | 3.6 | **Not Feasible**: Low savings and managers must meet key customers in developed countries (Walmart, Target, Kroger, etc.) |

# Exhibit #2

**Projected savings (NPV) for various outsourcing options**

| **Area** | **($B)** |
|---|---|
| Marketing | 8.2 |
| R&D | 12.3 |
| Manufacturing | 21.7 |
| Sales | 3.6 |

# Activist Action

## Prompt #3 – Sell Businesses

Other companies have seen significant cash and stock price increases when splitting off non-core businesses. The client would like you to value these brands/businesses and consider divesting them. Is there any additional information needed to estimate the market value?

## Interviewer Guidance – Prompt #2 and Exhibit #1

**When asked provide**: Benchmarking comparable firms gives FV/EBITDA = 3.5

A strong candidate will realize that a multiple is needed to find a sale price for each brand or region. If the candidate proposes using C/(r-g), give them the multiple to use instead.

| (Rev $B) | NA | LA | Asia | Europe | Sum | 5 year CAGR | EBITDA % | EBITDA | Sale (EBITDA Multiple) |
|---|---|---|---|---|---|---|---|---|---|
| Beauty by Gina | 8 | 5 | 1 | 3 | 17.0 | -1% | 35% | 6.0 | 20.8 |
| Jose's Chips | 2 | 3 | 0 | 1 | 6.0 | 12% | 23% | 1.4 | 4.8 |
| Tina's Hair Brand | 1 | 3 | 2 | 3 | 9.0 | 10% | 25% | 2.3 | 7.9 |
| Silky Sweets | 5 | 1 | 3 | 3 | 12.0 | 2% | 25% | 3.0 | 10.5 |
| Clearly Clean | 7 | 1 | 2 | 1 | 11.0 | 5% | 36% | 4.0 | 13.9 |
| Sum | 23 | 13 | 8 | 10 | 54 | | | | |
| 5 year CAGR | 2% | 4% | 11% | 1% | | 3.6% | | | |

Silky Sweets is the best choice since it meets the target cash value to return to shareholders and has low growth over the past 5 years.

# Exhibit #3

DUKE FUQUA SCHOOL OF BUSINESS

**Potential brands (businesses) that could be divested**

| **(Rev $B)** | **NA** | **LA** | **Asia** | **Europe** | | **5 year CAGR** | **EBITDA %** |
|---|---|---|---|---|---|---|---|
| Beauty by Gina | 8 | 5 | 1 | 3 | | -1% | 35% |
| Jose's Chips | 2 | 3 | 0 | 1 | | 12% | 23% |
| Tina's Hair Brand | 1 | 3 | 2 | 3 | | 10% | 25% |
| Silky Sweets | 5 | 1 | 3 | 3 | | 2% | 25% |
| Clearly Clean | 7 | 1 | 2 | 1 | | 5% | 36% |
| | | | | | | | |
| 5 year CAGR | 2% | 4% | 11% | 1% | | 3.6% | |

# Activist Action

## Recommendation – Solution

Strong recommendations include the following items or similar reasoning:

**The client should prepare to divest the "Silky Sweets" brand**

- The $10.8B savings will meet the activist goals
- This strategy does not compromise long-term operations of other brands
- The client should court the activist investor and attempt to align long-term goals

**Additional recommendations and risks**

- Long-term product supply restructuring could benefit the client
- Delayering (layoffs) could be appropriate in some parts of the company but would need evaluation
- Risk: Actual sale price and stock performance could vary based on the market

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | • Few mathematical errors<br>• Frames the problem and dynamics between investor and company goals (short-term/long-term) |
| Good Candidate | • Performs the above plus…<br>• Correctly evaluates the options (quantitatively and qualitatively)<br>• Quickly moves through overall case |
| Excellent Candidate | • Performs the above plus…<br>• Drives toward short-term opportunity to sell brands (may mention CPG examples)<br>• Provides 1-2 creative options in addition to the case defined options |

# Goodbye Horses

**Industry: Healthcare**

**Quantitative Level: Medium**

**Qualitative Level: Difficult**

# Behavioral Questions

**Question 1:**

- When working on a team where you are not the leader, what is the typical role you take?

**Question 2:**

- What is your least favorite aspect of Fuqua?

# Goodbye Horses

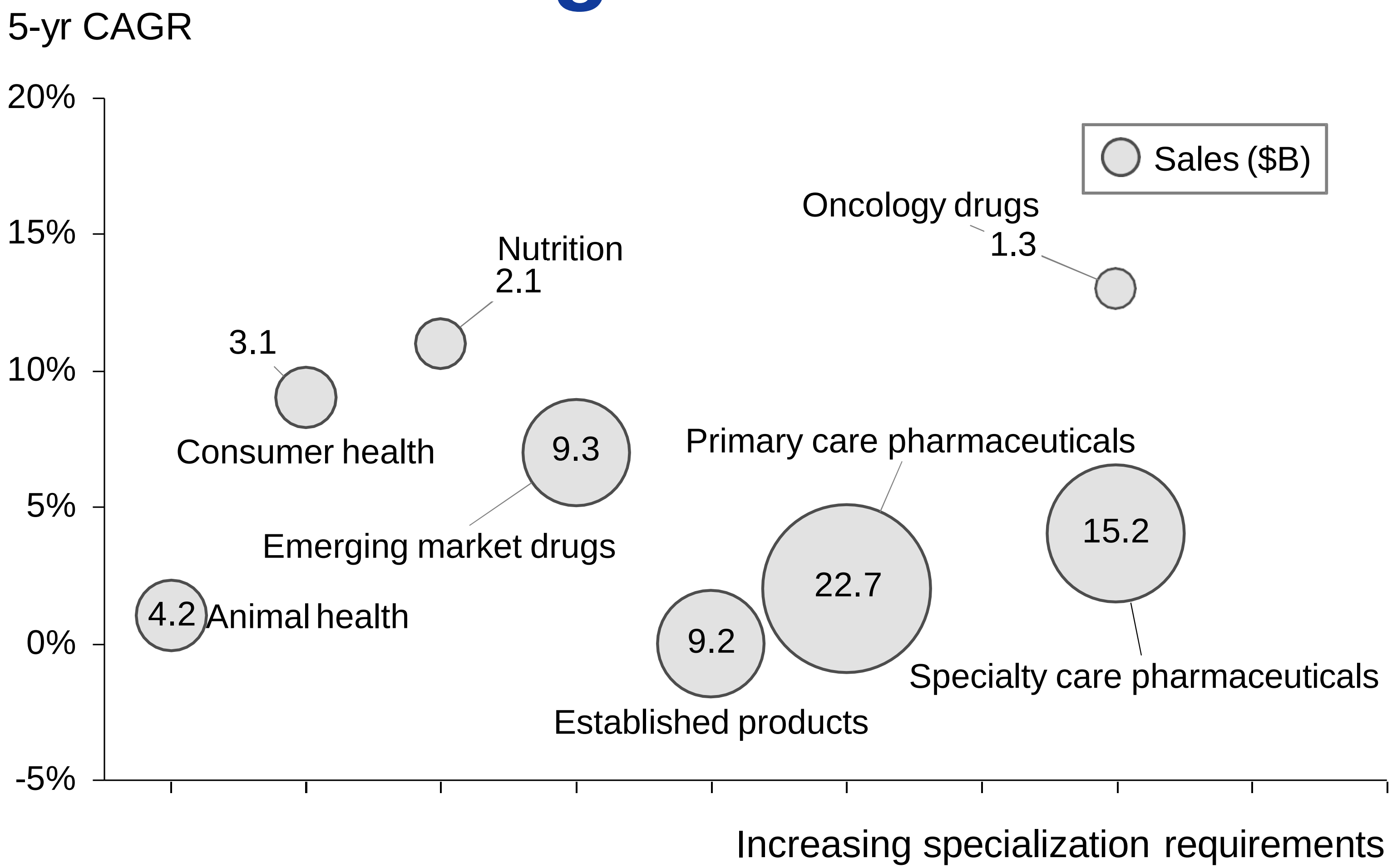
## Prompt #1:

- Your client is the CFO of Aperture Laboratories, a leading US biopharmaceutical company with a market cap >$150B. Aperture develops and manufactures a diversified range of products and in particular prides itself on saving millions of human lives every year.
- The company is under investor pressure because of its slow firm value growth over the next 10 years. Investors are very anxious to see significant changes announced at the firm in the next quarter. The CFO has already identified and evaluated a number of high-growth, promising, but capital-intensive projects, and she does not have enough cash to invest in any of the opportunities—what dose she need to do next?

## Interviewer Guidance:

- The prompt can be ambiguous, and many interviewees may drive the case towards evaluating the projects or building a profit tree of the existing business to identify any issues. Neither of these approaches directly answers the prompt, but probe them to realize the goal is to raise capital in order to fund these projects.
  - Optional: this case can be a good opportunity for the interviewee to experience a free-flowing, conversational "partner-style" case. Consider telling the interviewee to not write anything down for the framework.
- Let the student build a framework, which should be focused on ways to raise capital, but could also include other next steps such as gaining management buy-in to invest in these high growth opportunities
  - Ideal framework will include ways to raise capital (issuing equity, raising debt, divesting a portion of business, canceling existing projects to free up budget) and also touch on where to deploy the capital (i.e., into the projects)
  - Students may discuss P&L levers in their framework, which is OK, but check to see if they realize any cost-cutting or revenue-boosting measures will not raise capital quickly and do not satisfy investor requirements for significant changes
  - Ideal candidate will discuss pros/cons of each way to raise capital
- Guide them towards thinking about divestiture, then provide them with the first exhibit

# Exhibit #1: Aperture business segments



# Interviewer guidance on Exhibit #1

DUKE FUQUA SCHOOL OF BUSINESS

## Exhibit #1 Guidance:

- Provide the exhibit and let the interviewee walk through it verbally
- The interviewee should drive the discussion and determine that animal health is the best option to divest, providing sufficient rationale
- If the interviewee does not choose animal health, discuss with them their rationale and steer them towards choosing animal health
  - The interviewee should take the hint and switch towards animal health
- Do not prompt the interview towards next steps; make sure they drive conversation towards how much capital they can raise and if they can find buyers for the business unit

## Analysis:

- Chart takeaways (not all necessary to discuss)
  - Animal health is one of the lowest growth business units
  - Animal health is the most different business unit and outside of what Aperture prides itself in (saving human lives)
  - Its low degree of specialization will allow a larger pool of potential buyers (i.e., easier for another company to operate)

# Goodbye Horses

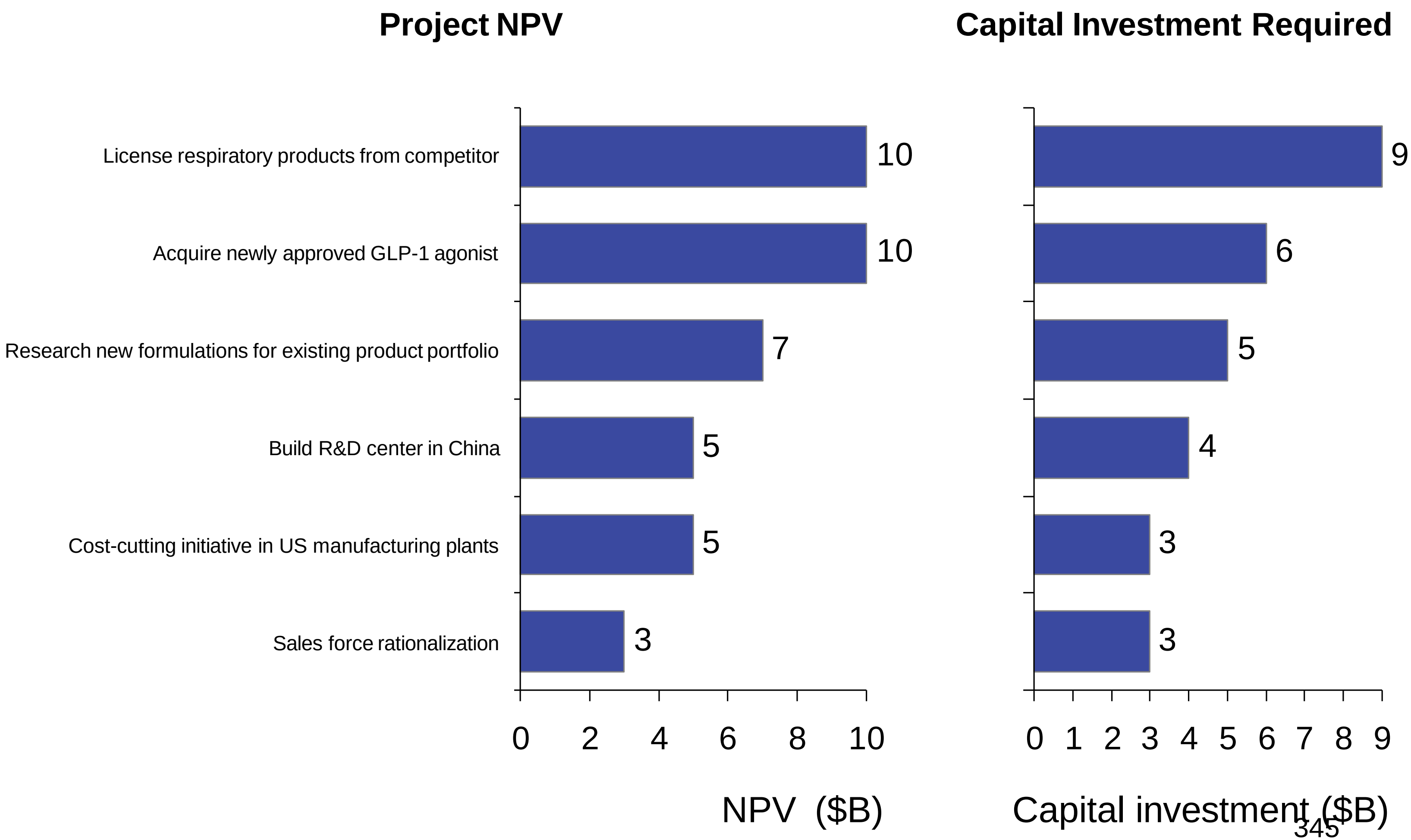
## Prompt #2:

- Unknown to the CFO until now, the business development team has retained JP Morgan to assess the sale-ability of the Animal Health business. They have identified that Aperture will likely receive a 3.5x enterprise value to sales multiple for the animal health business.

## Interviewer Guidance:

- Do not prompt further; let the interviewee work through the next steps
- The interviewee should drive towards understanding how much capital they will receive from the sale (($4.2B x 3.5 = $14.7B)
  - If asked about taxes, tell the interviewee the deal has been structured by JP Morgan to be tax-free
- The interviewee should then begin discussing which projects to invest the capital in. Once they've begun thinking about this, provide the next exhibit

# Exhibit #2: Investment opportunities



# Interviewer guidance on Exhibit #2

## Exhibit #2 Guidance:

- Provide the exhibit and let the interviewee walk through it verbally
- If asked, tell the interviewee that the NPV includes the capital investment
- The interviewee should drive the discussion and determine which projects to invest in; an excellent candidate will also look to discuss qualitative aspects of each projects (e.g., how long each project will likely take)
- Given our capital constraint of $14.7B, the interviewee should attempt to maximize NPV. Thus, the most effective use of capital is to invest in:
  - Acquire newly approved GLP-1 agonist
  - Research new formulations for existing product portfolio
  - Cost-cutting initiative in US manufacturing plants
- At this point, tell the interviewee to summarize their recommendation
  - Recap we want to sell animal health to raise capital and invest in 3 projects listed above
  - Risks: ability to sell animal health (i.e., finding a buyer), timing of deal completion, etc.

## Analysis:

- The easiest way to identify which projects to prioritize is to calculate a profitability index (e.g., NPV divided by capital investment)
- The interviewee can then rank projects by profitability index and see how many can be completed given our constraint of $14.7B
- Calculations
  1. $10 / $9 = 1.11
  2. **$10 / $6 = 1.67**
  3. **$7 / $5 = 1.40**
  4. $5 / $4 = 1.25
  5. **$5 / $3 = 1.67**
  6. $3 / $3 = 1.00
- Adding up projects 2, 3, and 5 gives us the highest NPV ($22B) given our capital constraint of $14.7B from the sale. It only requires $14B to accomplish.
- A very good candidate will also have a recommendation for the remaining $700M, i.e. share buy back, dividend payment, etc.

# Goodbye Horses

## Recommendation

- The CFO is out at lunch and the CEO of Aperture walks into your conference room, wondering what you've been working on.

## Interviewer Guidance:

- An ideal candidate will walk through the divestiture and what to do with the influx in capital.
- Risks
  - Ability to sell the Animal Health Division
  - Timing of the deal completion
  - Timeline for new capital projects
  - Potential for new capital projects to fail
- The ideal candidate will also have a mitigation strategy for each of these risks

# Sardine Airlines

**Industry: Transportation**

**Quantitative Level: Medium**

**Qualitative Level: Medium**

# Behavioral Questions

**Question 1:**

- What in your career has prepared you for consulting?

**Question 2:**

- What is the best reason that I should hire you?

# Sardine Airlines

## Prompt #1:

- Sardine Airlines is an ultra low-cost carrier with flights throughout the continental United States. They have hub airports in Oakland, California; Tulsa, Oklahoma, and Hartford, Connecticut. Sardine Airlines is facing increased pressure from other low cost carriers such as Cattle Car Air and Soul Airlines. Sardine Airlines has faced declining profit for the past year. Sardine's CEO, Penny McPincher, has asked your team for advice on how to reverse the profitability trend.

## Interviewer Guidance:

- Additional information to give the candidate if asked:
  - Sardine Airlines competes primarily on having the lowest cost fares and offering minimal service
  - Due to its business model Sardine Airlines has a culture of cost savings that can be passed to the customer
  - Sardine Airlines is trying to grow profit margin to 20% (INTERVIEWER GUIDANCE: net income/total revenue)
  - If the interviewee asks about revenues/costs give them Exhibit 1, Statement of Operations

# Exhibit #1 – Statement of Operations

Unaudited, in millions

| | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|
| Operating Revenue | | | | |
| Passenger | $ 1,088 | $ 1,092 | $ 908 | $ 793 |
| Non-ticket | $ 1,055 | $ 968 | $ 862 | $ 769 |
| **Total Revenue** | **$ 2,143** | **$ 2,060** | **$ 1,770** | **$ 1,562** |
| Operating Expense | | | | |
| Fuel | $ 589 | $ 583 | $ 625 | $ 718 |
| Landing Fees | $ 383 | $ 370 | $ 332 | $ 296 |
| Maintenance | $ 214 | $ 164 | $ 106 | $ 67 |
| SG&A | $ 428 | $ 309 | $ 185 | $ 171 |
| Special Charges | $ - | $ - | $ 225 | $ - |
| **NI Pre Tax** | **$ 529** | **$ 634** | **$ 297** | **$ 310** |
| Taxes | $ 158 | $ 189 | $ 88 | $ 92 |
| **Net Income** | **$ 371** | **$ 445** | **$ 209** | **$ 218** |

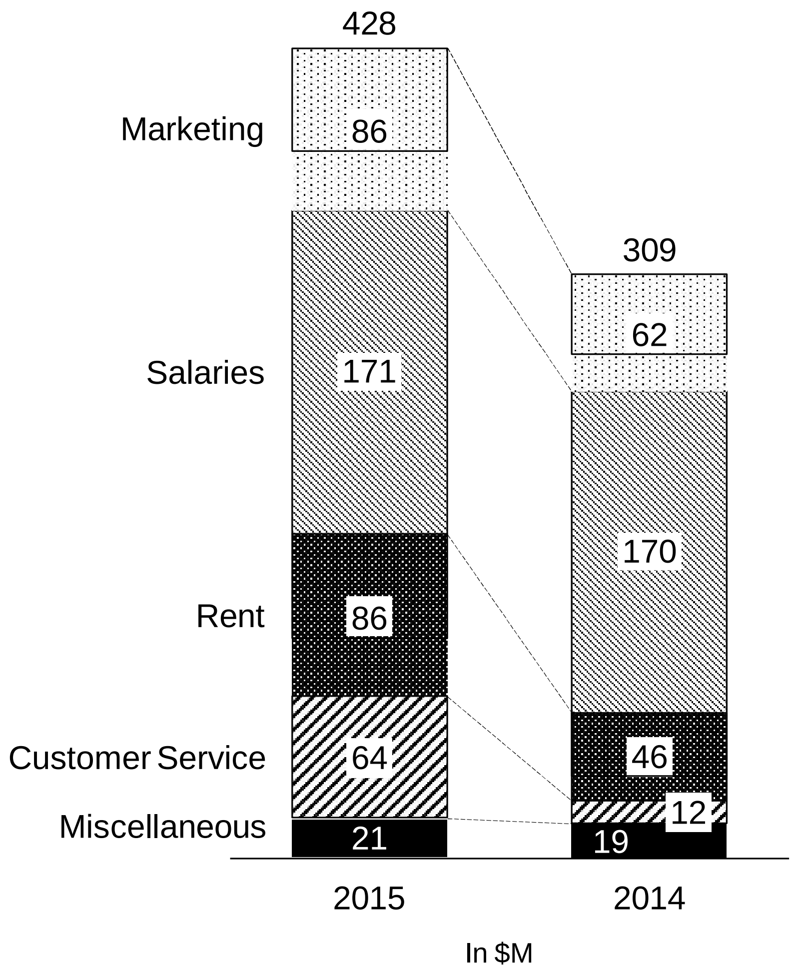
# Exhibit #1 – INTERVIEWER GUIDE

| | 2015 | 2014 | 2013 | 2012 |
|---|---|---|---|---|
| Operating Revenue | YOY CHANGE IN REVENUES FROM PRIOR YEAR | | | |
| Passenger | -.37% | 20.26% | 14.47% | |
| Non-ticket | 9% | 12% | 12% | |
| **Total Revenue** | **4%** | **16%** | **13%** | |
| Operating Expense | EXPENSES/NI AS A PERCENT OF TOTAL REVENUE | | | |
| Fuel | 27% | 28% | 35% | 46% |
| Landing Fees | 18% | 18% | 19% | 19% |
| Maintenance | 10% | 8% | 6% | 4% |
| SG&A | 20% | 15% | 11% | 11% |
| Special Charges | 0% | 0% | 13% | 0% |
| **NI Pre Tax** | **25%** | **31%** | **17%** | **20%** |
| Taxes | 30% | 30% | 30% | 30% |
| **Net Income** | **17%** | **21%** | **12%** | **14%** |

# Interviewer guidance on Exhibit 1

| Exhibit #1 Guidance: | Analysis: |
| --- | --- |
| • The exhibit is designed to have too much data to synthesize in a reasonable amount of time<br>• Additional information:<br>– Non ticket revenue are things like bag fees, food, beverages, customer service charges, paper tickets, etc.<br>– Landing fees are what Sardine Airlines pays to use airports | • The candidate should keep in mind the 20% profit margin that the CEO wants, which given the NI, is $57.6M<br>• The candidate should see that revenue has continued to grow, albeit slower than in the past<br>• The candidate should see that SG&A as a proportion of revenue increased from 15% to 20% and is the primary driver of declining profit – once identified give them Exhibit 2<br>• If the candidate identifies maintenance costs proportionately increasing give them Exhibit 3 – if exhibit 3 never comes up, you do not need to push it to the candidate |

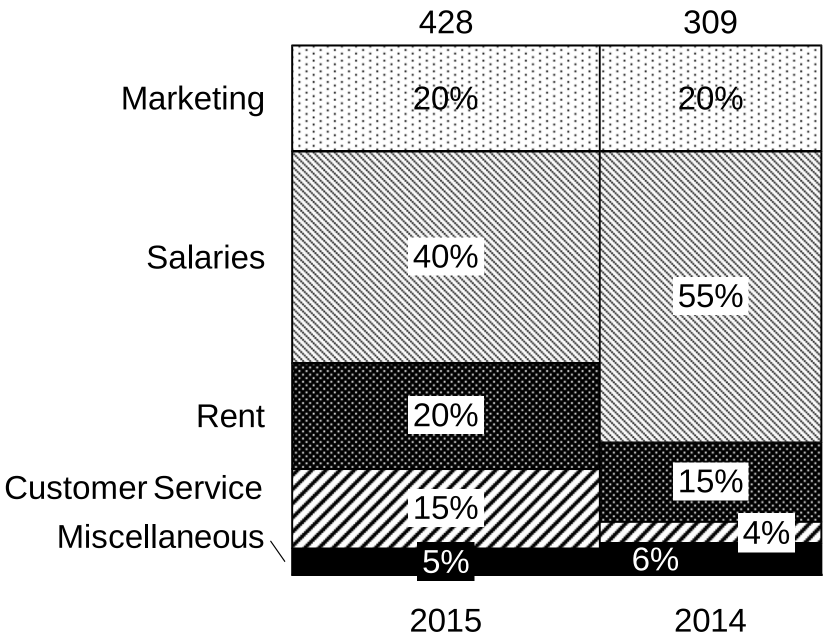
# Exhibit #2 – SG&A Breakdown



# Interviewer guidance on Exhibit 2

## Exhibit #1 Guidance:

- The percent of total SG&A and absolute increases are below




## Analysis:

- The candidate should identify that 3 areas are driving growth in SG&A: Marketing, Rent, and Customer Service
- The other areas are not large enough increases to focus on to get to the $57.6M profit increase the CEO is looking to achieve

| | YoY Change |
|---|---|
| Marketing | $ 24 |
| Salaries | $ 1 |
| Rent | $ 40 |
| Customer Service | $ 52 |
| Miscellaneous | $ 2 |

# Exhibit #3 – Sardine Maintenance

TO: Penny McPincher, CEO of Sardine Airlines
FROM: Michael Huerta, Administrator of the Federal Aviation Administration

DATE: June 30th, 2015
SUBJECT: Sardine Airlines Maintenance Record

This memorandum is to notify that as of today, Sardine Airlines is no longer under maintenance supervision from the Federal Aviation Administration (FAA). The FAA believes the improved maintenance program no longer warrants FAA intervention.

Any future decrease in maintenance standards will result in FAA supervision or sanctions.

# Interviewer guidance on Exhibit 3

| Exhibit #1 Guidance: | Analysis: |
| --- | --- |
| • The Federal Aviation Administration (FAA) is the U.S. Government regulatory agency responsible for the safety of U.S. airlines | • The candidate should put together that the increase in maintenance spending is directly tied to the fact that previous maintenance spending was not sufficient to be considered safe<br>• The candidate should move off of maintenance cost cutting<br>• If the candidate still is interested in pursuing cost cutting in maintenance give them this prompt, “Our client is adamant that the recently improved maintenance program is running at peak efficiency and any cuts would invite unwanted scrutiny from regulators.” |

# Sardine Airlines

## Prompt #2:

- Sardine Airlines has been aggressively advertising to combat competitive pressures. Both the CEO and the Board believe this is a critical expenditure. Recently the landlord for the firm's headquarters in Oakland raised rent by $35M. Customer service complaints have increased nearly 3,000%, which the company believes is due to the new 12 inch seats that were installed in the entire fleet. This has caused Sardine's call center provider to increase billing by 520% from 2014's $12.36M. What can Sardine Airlines do to address these issues?

## Interviewer Guidance:

- Neither the CEO or Board will take any recommendations on cutting the marketing expenses
- The firm does not have to be headquartered in Oakland, but does want to be in a location where it has major operations
- The firm is not interested in increasing seat sizes. They are actually looking to pilot 8 inch seats in a new class of service called, "steerage"
- The call center vendor charges rates that are on average 60% higher because their call center's are based in the United States and staffed with native English speakers
- Rent in Tulsa or Hartford would be 40% less than current 2015 rent (INTERVIEWER GUIDANCE this equates to $34.4M)

# Sardine Airlines

## Recommendation

- The CEO, Ms. McPincher is going to be joining us in just a few minutes to hear your recommendations on how to improve profitability.

## Interviewer Guidance:

- Candidate should have a recommendation that includes the following:
  - To increase profit margin to 20%, Sardine Airlines should focus on cutting SG&A costs
  - There are two key ways to cut SG&A, customer service and rent
  - Recommend that the call center vendor should transition to an overseas based vendor, which would save approximately $38M
  - Move the headquarters to either Tulsa or Hartford, which will have less expensive office real estate markets and thus find major cost savings
  - Given the relative low increase in revenue from installing 12” inch seats, recommend against 8” seats
- Risks should include: one-time expenses in moving the headquarters, unhappy customers from decreased customer service quality

# Fringe Science

**Industry: Healthcare**

**Quantitative Level: Medium**

**Qualitative Level: Difficult**

# Behavioral Questions

DUKE FUQUA SCHOOL OF BUSINESS

**Question 1:**

- If a previous coworker was asked to describe you, what three qualities would they highlight?

**Question 2:**

- Describe a time when you and a coworker had different opinions on how best to proceed on a project or solve a problem. How was this situation resolved?

# Fringe Science

## Prompt #1:

Massive Dynamic is a multi-national pharmaceutical company. One of their assets, Cortexiphan, is an anti-infective that successfully treats three major types of hospital-born illness and is currently in Phase II clinical trials. Unfortunately, Massive Dynamic only has the capital to finance a Phase III clinical trial for one of the three illnesses with Cortexiphan treats. Walter Bishop, Chief Medical Officer of Massive Dynamic, has enlisted your help to decide which of the three possible indications for cortexiphan they should pursue to maximize profits over a five year-period post-launch.

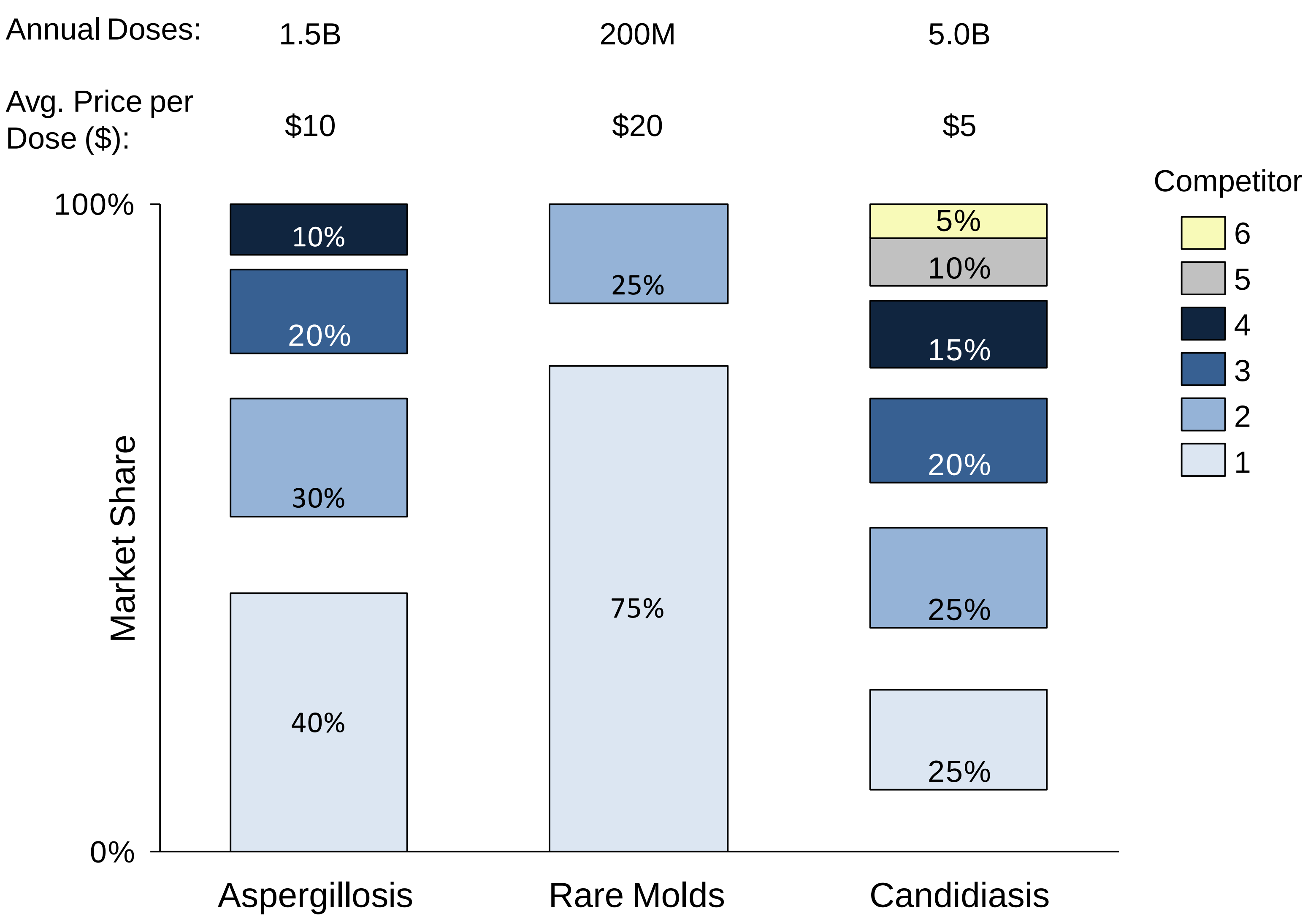
## Interviewer Guidance:

Clarifications to be provided:

- Drug is only likely to be approved in the US at this time
- Drug will be sold directly to hospitals by Massive Dynamic; therefore, no need to consider distribution channel cots, etc.
- No need to calculate based on NPV, just do total over five years w/out discounting

- Provide **Exhibit 1** when asked about market size and/or competition
- Provide **Exhibit 2** when asked about development costs or clinical profile
- Provide **Exhibit 3** after an initial indication selected and pricing prompt given

# Exhibit #1



Annual Doses: 1.5B 200M 5.0B
Avg. Price per Dose ($): $10 $20 $5
Competitor
6
5
4
3
2
1
100%
0%
Market Share
10%
20%
30%
40%
25%
75%
5%
10%
15%
20%
25%
25%
Aspergillosis
Rare Molds
Candidiasis

# Interviewer Guidance: Exhibit 1

## Exhibit #1 Guidance:

**Interviewer Prompt:** Here is preliminary analysis of the three potential indications for cortexiphan. What are your initial thoughts based on this information?

Potential questions:

- No new entrants other than cortexiphan are likely to enter the market in the time frame we are considering
- Market for all three indications is not expected to grow or decline over time

## Analysis:

- Qualitatively, candidate should recognize:
  - Asp. indication has four products available, two of which are used quite sparingly
  - Rare molds indication has only 2 products available, with one clear market leader; physicians likely want more options AND the potential for a lower-cost option than $20/pill (2-4x the other two treatments) is very high provided that our client can make the economics work at that price.
  - Candidiasis is a very crowded indication, with no clear market leader; very strong clinical profile (i.e. the efficacy of the drug relative to other available options within that indication) will be required to penetrate
- Candidate should also calculate total market size for each indication
  - Asp. = 1.5B x $10 = **$15B**
  - Rare Mold = 200M x $20 = **$4.0B**
  - Cand. = 5.0B x $5 = **$25B**
- Candidiasis is biggest, but info on development costs and likely market share in each indication is required before making a decision; candidate should request info on clinical profile (Exhibit 2)

# Exhibit #2

| Metric | Aspergillosis | Rare Molds | Candidiasis |
|---|---|---|---|
| Probability of Phase III Trial Success | 50% | 25% | 60% |
| Phase III Trial Cost | $2 Billion | $500M | $1 Billion |
| Production Cost Per Dose | $7.0 | $5.0 | $2.0 |
| Safety Profile (vs. Market Leader) | Equal | Equal | Poor |
| Efficacy Profile (vs. Market Leader) | Superior | Equal | Equal |

# Interviewer Guidance: Exhibit 2

## Exhibit #2 Guidance:

**Interviewer Prompt:** Our development team has provided the following information on cortexiphan's clinical profile, based on the Phase II trial results

Potential questions:

- Cortexiphan can be assumed to be priced at market average for initial analysis
- Hypothetical market share should be first estimated by candidate based on the information provided in Exhibit 1 & 2 combined
  - Asp = Superior clinical profile to current options; likely to become new market leader (50-60%)
  - Rare Molds = Equal clinical profile; likely to pretty much split the market with current leader; maybe cortexiphan gets a bit less since competition has advantage of being first to market (40-50%)
  - Cand. = Clinical safety profile is worse than leader in a crowded market; at same price as competition we are unlikely to be a significant player (much less than 25% share of market leader)

## Analysis:

- Candidate should have sound rationale for market share assumptions; after discussion tell them to use the following for calculations
  - Asp = 60%
  - Rare Molds = 40%
  - Candidiasis = 10%
- Candidate should now proactively calculate annual profits with market share

Profit = (Revenue per Dose – Cost per Dose)*(Market Share * Total Annual Doses)

  - Asp = ($10-$7) * (60% * 1.5B) = **$2.7B**
  - Rare Molds = ($20-$5) * (40% * 200M) = **$1.2B**
  - Cand. = ($5 - $2) * (10% * 5.0B) = **$1.5B**

- Clinical trial costs and probability of success should also be included to make final decision (5 year period); calculations on next page

# Interviewer Guidance: Exhibit 2

## Analysis:

| Profit Calculations | | | | | |
|---|---|---|---|---|---|
| | Annual Rev. | 5 Year Revenue | Trial Cost | Trial Succeeds Profit | Trial Fails Loss |
| Aspergilosis | $2.7 | $13.5 | $2.0 | $11.5 | ($2.00) |
| Rare Mold | $1.2 | $6.0 | $0.5 | $5.5 | ($0.50) |
| Candidiasis | $1.5 | $7.5 | $1.0 | $6.5 | ($1.00) |

| Trial Outcomes | |
|---|---|
| Success | Fail |
| 50% | 50% |
| 25% | 75% |
| 60% | 40% |

| Expected Profit | |
|---|---|
| Aspergilosis | $4.75 |
| Rare Mold | $1.00 |
| Candidiasis | $3.50 |

Expected Profit = (Prob Success * Profit if Success) – (Prob Fail * Loss if Fail)

– Asp = $11.5*50% - $2.0*50% = $4.75
– Rare Molds = $5.5*25% - $0.5*75% = $1.0
– Candidiasis = $6.5*60% - $1.0*40% = $3.5

- Candidate should drive to conclusion that Aspergillosis is the most profitable indication if successful, and has the highest expected profit even when accounting for potential failure; therefore, this should be indication chosen

# Fringe Science

DUKE FUQUA SCHOOL OF BUSINESS

## Prompt #2:

Dr. Bishop agrees with your initial assessment that the aspergillosis indication is a good first indication. Next, he is wondering whether pricing at either a discount or premium to the market will result in increased profitability. What do you think are the main pros and cons of both strategies?

## Interviewer Guidance:

Brainstorming exercise; possible answers include:

Premium:

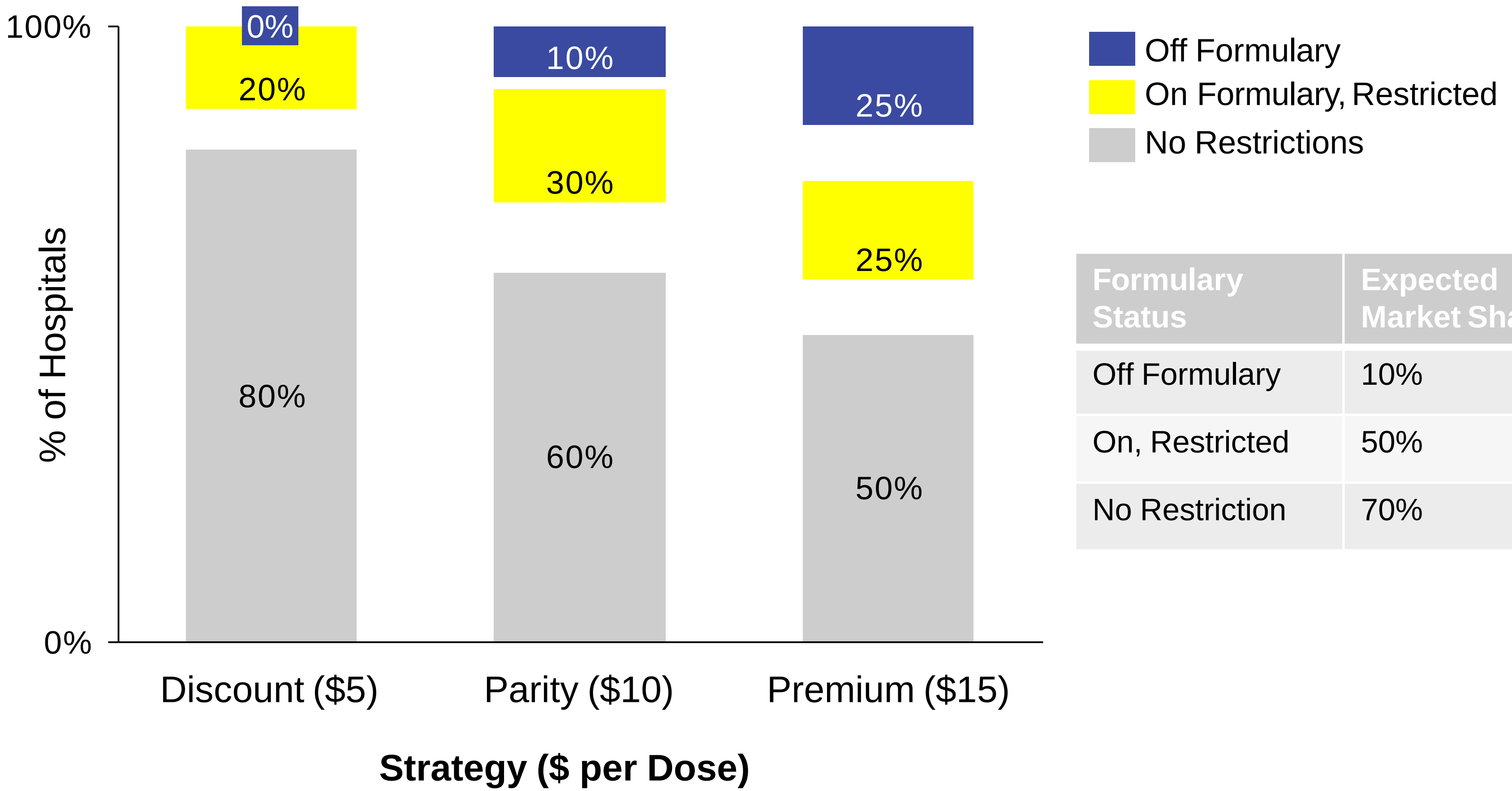
- Pros – Signals to market that product is better than what is currently available, which matches clinical profile; more revenue per dose; can selectively offer discounts to certain hospitals if required, but don't sacrifice revenue pro-actively in case where you don't
- Cons – Formulary status / market share are likely lower; bad publicity w/ current media and government pressure on high priced pharmaceuticals

Discount:

- Pros – High market share and quicker product uptake; can always take price increases over time
- Cons – Decreased revenue per dose; pricing choice for aspergillosis could hinder pricing potential for rare molds or candidiasis if pursue these indications later b/c low price is expected

# Exhibit #3

Cortexiphan Aspergillosis Formulary Status Distribution by Pricing Strategy




| Formulary Status | Expected Market Share |
|---|---|
| Off Formulary | 10% |
| On, Restricted | 50% |
| No Restriction | 70% |

# Interviewer Guidance: Exhibit 3

## Exhibit #3 Guidance:

**Interviewer Prompt:** Our market research team has now conducted preliminary interviews with both payers and providers to get more detailed information on how cortexiphan is likely to be used at different price points

Potential questions:

- All hospitals can be assumed to be of similar size for calculation purposes

## Analysis:

- Candidate should recognize qualitatively that higher price leads to worse formulary status, and consequently lower market share
- Candidate should determine overall market share at each price point by using a sum-product of percentage of hospitals at each formulary status * expected market share
  - Discount: 80%*70% + 20%*50% = 66%
  - Parity: 60%*70% + 30%*50% + 10%*10% = 58% (round to 60%)
  - Premium: 50%*70% + 25%*50% + 25%*10% = 50%
- Annual revenue should be calculated based on price, market share, and total doses
  - Discount: 1.5B doses * 2/3 * $5 = **$5B**
  - Parity: 1.5B doses * 60% * $10 = **$9B**
  - Premium: 1.5B doses * 50% * $15 = **$11.25B -> five-year = $56.25B**
- Profit tracks with revenue b/c cost is the same, so only need to calculate for premium
  - ($15 revenue - $7 cost per pill) * 0.75B doses annually * 5 years = **$30B** - $2B trial cost = **$28B**

# Fringe Science

## Recommendation

Based on all of the information presented, what would be your recommendation for Dr. Walter Bishop regarding the development of cortexiphan?

## Interviewer Guidance:

- Candidate should recommend pursuing the aspergillosis indication at a premium price of $15 / dose
- This recommendation will result in total expected revenue of $56.25B and profits of $28B over the five-year period post-launch
- Candidate should note risks of strategy (e.g., there is a 50% chance the trial fails, leading to a $2B loss for the cost of the trial)
- Aspergillosis indication is preferred because of cortexiphan's superior clinical profile, high expected market share, and relatively large market size; although candidiasis is bigger market, we are not expected to be a big player based on the clinical profile
- Pricing at a premium hinders formulary status somewhat, but the higher price per dose makes up for this; should also discuss potential cons of premium price

# Fringe Science Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | • Framework touches only om minority of case components<br>• Some guidance required in driving towards profitability, or misses requesting important information required to make calculations<br>• Focused only on quantitative considerations, lacking on qualitative insights |
| Good Candidate | • Discusses all aspects of profitability case: market size, competition, market share potential, fixed and variable costs<br>• Calculations are quick and sound<br>• Makes clear, confident recommendations based on information presented |
| Excellent Candidate | • Framework is customized to healthcare considerations and not basic profitability framework<br>• Proactively thinks about opportunity to pursue different pricing strategies and impact on potential revenue<br>• Notes risks of preferred strategy |

# Congo's Drumming

**Industry: E-Commerce Operations**

**Quantitative Level: Medium**

**Qualitative Level: Difficult**

# Behavioral Questions

**Question 1:**

- Tell me about a time that you've had to lead a diverse team
  - What were the challenges?
  - What did you learn from this experience?

**Question 2:**

- What is something your former supervisors would say you do well?
- What is something your former supervisors would say you need to improve?

# Congo's Drumming

## Prompt #1:

- Your client, Congo.com (named after one of Earth's rainforests), is one of the largest e-commerce retailers in the world. It specializes in a diverse logistics network, and its brand is built around consumer satisfaction. The company has grown dramatically over the last 5 years, but has started to notice recent profit margin dips. You have been hired to find the root causes that Congo must address to focus on profitability so they can continue to drive growth.

## Interviewer Guidance:

- Congo gives its customers the best prices with the fastest delivery rates
- Congo is a worldwide company, but wants to focus on US profitability to drive expansion into other countries
- There are eight main distribution facilities in the United States
- Company growth has outpaced all competitors in the retail industry
- Any positive change in profitability is the goal. It's up to you to quantify the impact of changes recommended.
- Profit margin = net income/total revenue

# Exhibit 1

Unaudited, in millions

## Congo.com Income Statement*

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Operating Revenue | | | | | |
| Units Shipped | 1,176 | 1,528 | 1,987 | 2,583 | 3,358 |
| Avg $/unit | $ 4.00 | $ 3.75 | $ 4.25 | $ 4.50 | $ 4.00 |
| **Total Revenue** | **$ 4,703** | **$ 5,732** | **$ 8,445** | **$ 11,624** | **$ 13,870** |
| Operating Expense | | | | | |
| Maintenance | $ 941 | $ 1,146 | $ 1,267 | $ 1,162 | $ 694 |
| SG&A | $ 941 | $ 1,003 | $ 1,267 | $ 1,162 | $ 1,387 |
| Transportation | $ 1,881 | $ 2,293 | $ 3,378 | $ 5,812 | $ 8,322 |
| Permitting | $ 564 | $ 688 | $ 1,013 | $ 1,395 | $ 1,652 |
| Other | $ 470 | $ 573 | $ 845 | $ 1,162 | $ 1,387 |
| **NI Pre Tax** | **$ (94)** | **$ 29** | **$ 676** | **$ 930** | **$ 429** |
| Taxes | $ (28) | $ 9 | $ 203 | $ 279 | $ 129 |
| **Net Income** | **$ (66)** | **$ 20** | **$ 473** | **$ 651** | **$ 300** |



*US Distribution Centers only

# Exhibit 1 – Interviewer Guidance

Unaudited, in millions

Congo.com Income Statement*

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|
| Operating Revenue | **YOY CHANGE IN REVENUES FROM PRIOR YEAR** | | | | |
| Units Shipped | - | 30% | 30% | 30% | 30% |
| Avg $/unit | - | -6.3% | 13.3% | 5.9% | -11.1% |
| **Total Revenue** | **-** | **22%** | **47%** | **38%** | **19%** |
| Operating Expense | **EXPENSES/NI AS A PERCENT OF TOTAL REVENUE** | | | | |
| Maintenance | 20% | 20% | 15% | 10% | 5% |
| SG&A | 20% | 18% | 15% | 10% | 10% |
| Transportation | 40% | 40% | 40% | 50% | 60% |
| Permitting | 12% | 12% | 12% | 12% | 12% |
| Other | 10% | 10% | 10% | 10% | 10% |
| **NI Pre Tax** | **-2.00%** | **0.50%** | **8.00%** | **8.00%** | **3.09%** |
| Taxes | 30% | 30% | 30% | 30% | 30% |
| **Net Income** | **-1.40%** | **0.35%** | **5.60%** | **5.60%** | **2.16%** |

*US Distribution Centers only

# Exhibit 1 – Interviewer Guidance

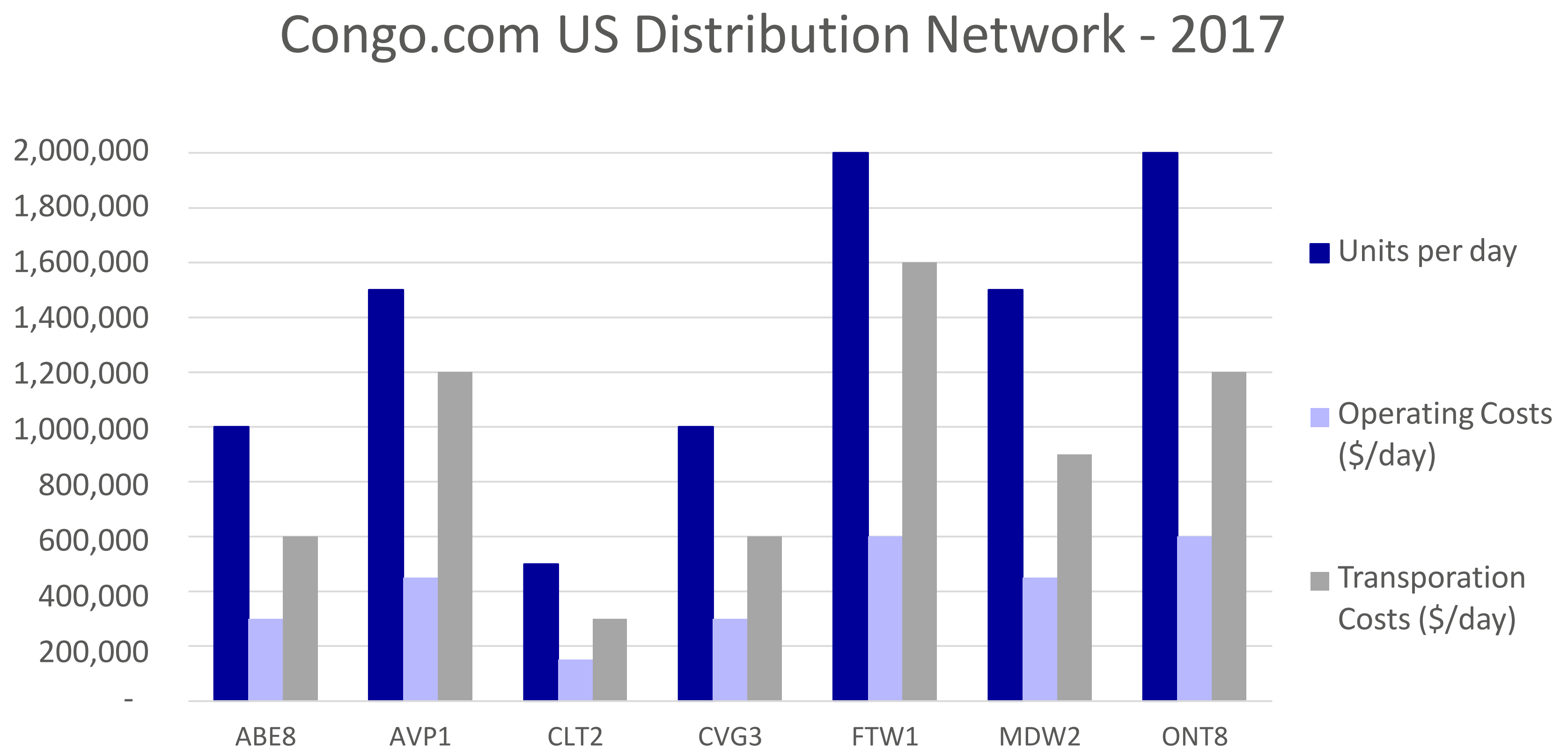
## Exhibit #1 Guidance:

- The exhibit has too much data to synthesize in a reasonable amount of time
- Units shipped are driven by online sales increasing
- Avg $/unit is an aggregation of all online sales purchases, driven by consumer decisions
- Cost Breakdowns:
  - **Maintenance:** cost to maintain facilities
  - **SG&A:** cost to employ facilties
  - **Transportation:** cost to ship units to consumers both directly tied to distribution centers costs and other external costs the Company can't control
  - **Permitting:** cost to operate in communities
  - **Other:** general business expenses

## Analysis:

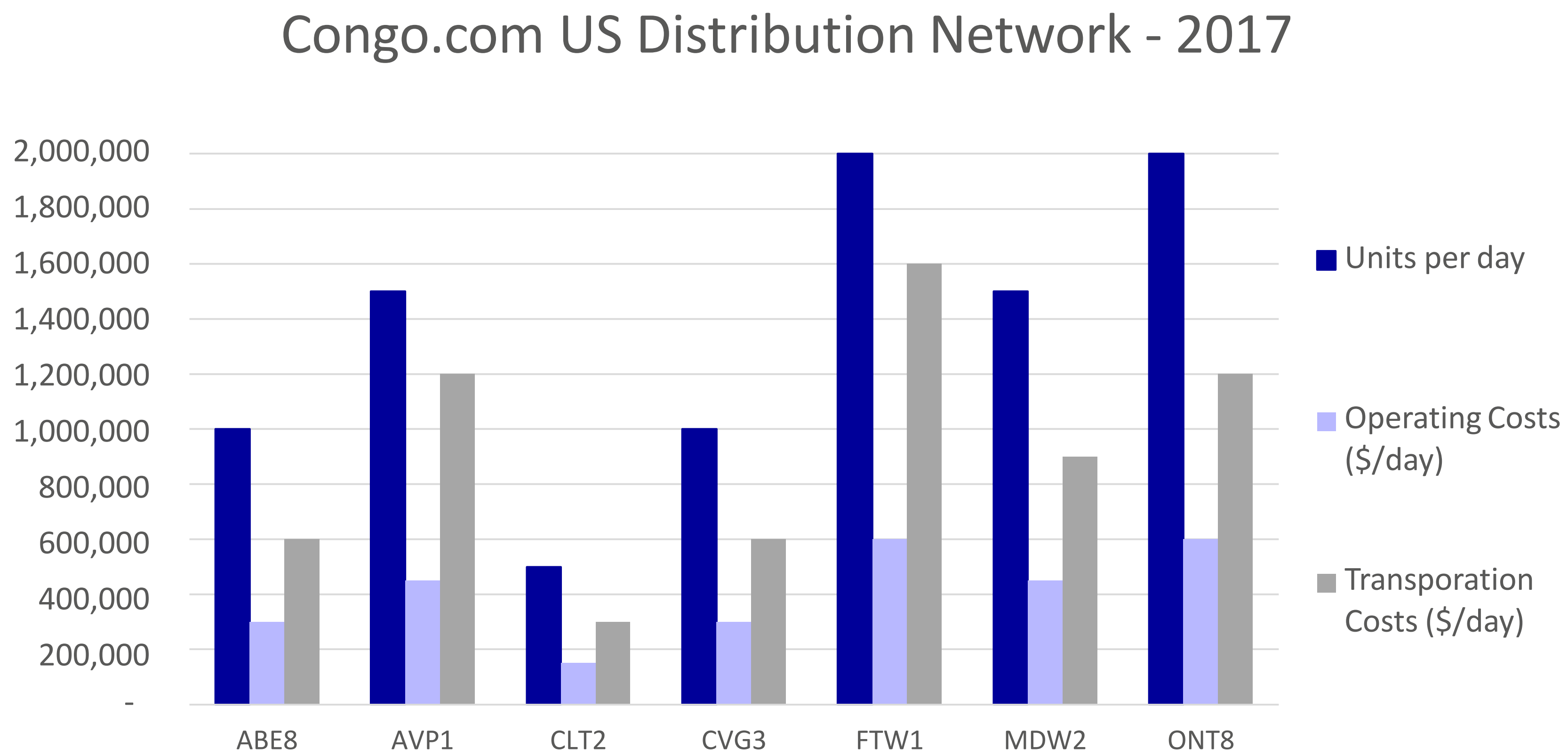
- The candidate should see that items shipped has continued to grow at a steady pace (30% YoY)
- Key item is that we are only concerned with profitability in recent years.
- If asked about $/unit changes, tell the candidate that Congo has little control over the market competitive pricing.
- All costs are rising YoY, but candidate should note that Transportation has risen by a larger percentage of revenue over the last two years (40% to 60%)
- If candidate identifies Transportation costs increasing being the biggest factor of profitability, give the candidate Exhibit 2.

# Exhibit 2




| Sq. Ft. | 500k | 500k | 500k | 500k | 500k | 1M | 1M |
|---|---|---|---|---|---|---|---|

# Exhibit 2 – Interviewer Guidance




| Sq. Ft. | 500k | 500k | 500k | 500k | 500k | 1M | 1M |
|---|---|---|---|---|---|---|---|
| Unit/Sq. Ft. | 2 | 3 | 1 | 2 | 4 | 1.5 | 2 |
| Operations cost % | 30% | 30% | 30% | 30% | 30% | 30% | 30% |
| Transport Cost % | 60% | 80% | 60% | 60% | 80% | 60% | 60% |

# Exhibit 2 – Interviewer Guidance

## Exhibit #2 Guidance:

- The purpose of this exhibit is for the candidate to identify specific facilities by percentages of output.
- Units per day are 2017 numbers for amount of SKUs shipped from each facility each day.
- Operating Costs are in $/day
  - Guidance sheet shows $cost/unit shipped
- Transportation Costs are in $/day
  - Guidance sheet shows $cost/unit shipped
- Square Footage is only meant to reference the size of the facility. Intuitively, larger facilities should output a larger amount per day
- Candidate may realize that Operating Costs + Transportation Costs > Units Shipped per day. Remind them that this graph ignores $/unit in revenue.

## Analysis:

- The candidate should recognize that FTW1 and ONT8 ship more per day than any facility, but FTW1 has half of the square footage
  - Bonus points for stating that FTW1 has the highest productivity in the network (4 units/sq. ft.)
- 5 of the 7 facilities have identical cost percentages (30% for Operation, 60% for Transportation)
- FTW1 and AVP1 have 80% transportation costs. However, the candidate may not notice AVP1 because it produces less units/day than others.
  - *Bonus points for recognizing both facilities are opportunities for improvement.*
- The candidate should recognize that transportation costs are our best opportunity. If asked for a breakdown, please move on to Prompt #2.

# Congo’s Drumming

DUKE FUQUA SCHOOL OF BUSINESS

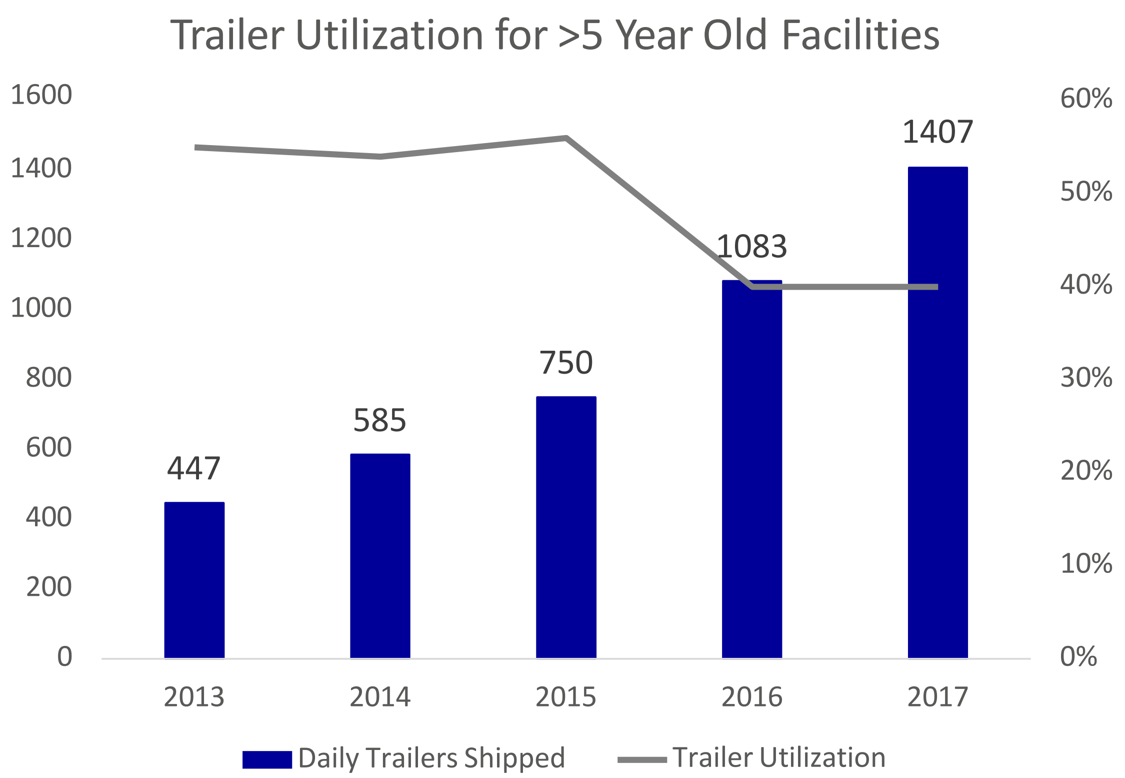
## Prompt #2:

- Facility transportation costs are made up by three different factors: 1) lane cost to ship to a specific destination, 2) utilization of those trailers shipped, and 3) US Department of Transportation costs. Congo.com has been expanding the quantity of shipping destinations to fuel its growth. Where should Congo go from here?

## Interviewer Guidance:

- “Expanding the quantity of shipping destinations” means: Congo is shipping to more destinations than before and shipping more to their previous destinations.
- Candidate should recognize if Congo is increasing its destinations, then it makes sense that lane costs and DOT costs should also rise accordingly.
- Push candidate towards wanting to look into #2 Utilization of Trailers.
- Candidate should recognize and ask about utilization costs for FTW1 *AND/OR AVP1*. *Do not give information about a facility that the candidate hasn’t identified*.
- Trailer Utilization = % of truck trailer filled by actual SKU volume
- Once the candidate has identified that Trailer Utilization must be a problem, provide them with Exhibit #3.

# Exhibit #3




**Project Proposal:**

- Automation upgrades would allow under-performing facilities to improve trailer utilization to Company standards.
- Current automation standards were implemented in all facilities built within the last 5 years.
- Improvements in Trailer Utilization would cut Transportation Costs by 25%
- Project cost: $10M/facility

| Facility | ABE8 | AVP1 | CLT2 | CVG3 | FTW1 | MDW2 | ONT8 |
|---|---|---|---|---|---|---|---|
| Years Old | 4 | 7 | 3 | 2 | 8 | 2 | 4 |

# Exhibit 3 – Interviewer Guidance

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## Exhibit #3 Guidance:

- The graph is a quick affirmation that even though Trailers Shipped is increasing, Trailer Utilization is our main problem.
- The candidate shouldn't get too caught up in the graph on this page, if they do – please move them along.
- Project Proposal summarized:
  - This project would cut costs by 25% at any facility not built in the last 5 years
  - Only AVP1 and FTW1 are older than 5 years
- This is the final chance for the candidate to recognize that there are two sites eligible for Transportation savings: AVP1 and FTW1.
  - If the candidate doesn't recognize this, do not reveal it to them.

## Analysis:

- The graph affirms that increasing lanes of shipping has increased the amount of trailers needed to ship increasing amount of items.
- This project proposal does not apply to 5 of the 7 facilities.

## Calculation:

- Have the candidate figure out opportunity of transportation savings on Congo's bottom line.
- Strong candidates will have been compiling numbers throughout the entire case.
- Assume 350 Operating Days/year

# Calculation – Interviewer Guidance

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## Transportation Costs:

- Candidate may identify some or all of the possibilities
- FTW1: $1.6M * 25% save = $400k/day
  - $400k*350 working days = $140M/year
- AVP1: $1.2M * 25% save = $300k/day
  - $300k*350 working days = $105M/year
- Total Transportation savings = $245M/year
- Impact to NI (Pre-tax): $429+$245 = $674M
  - Or around a 60% increase in Net Income.
- If only FTW1 evaluated: $429+$140 = $569M
  - Or around a 33% increase in Net Income.
- In only AVP1 evaluated: $429+$105 = $534M
  - Or around a 25% increase in Net Income.

## Analysis:

- Candidate should use a structured calculation method.
- Good candidates will have been compiling information throughout the case, but allow them to use the exhibits if they ask.
- If candidate has not identified there are two facilities eligible for savings, do not bring it up at this time.
- Once candidate has concluded calculation, move on to the final recommendation.

- If candidate is strong at math (and you have time) ask them to calculate new “trailers shipped” number if utilization is improved to 60% in 2017. (Exhibit 3)
  - Answer: 1225 trailers (next page for calculation

# Extra Calculation – Interviewer Guide

- Trailer Utilization = % of truck trailer filled by actual SKU volume
- (1 – Trailer Utilization) = amount of space that wasn't filled with SKU volume
- From Exhibit 3:
  - 2017 Trailer Volume = 1407 (round down to 1400)
  - 2017 Trailer Utilization = 40% (or 60% unused space)
- Increase in utilization yields lower amount of trailers based off of some volume constant from 2017
- 1400 = x*(1+(1-0.4)) -> 1400 = 1.6x -> x=875
  - x = volume constant from 2017
- Once you have volume constant, calculate trailer volume w/ 60% utilization
- x = 875*(1+(1-0.6)) -> x = 875*(1.4) -> x = 1225

# Congo's Drumming

## Recommendation

- The CEO of Congo.com, Heff Crezos, will be joining us in a few minutes to hear your recommendations on how the Operations can improve profitability.

## Interviewer Guidance:

- Candidate should have a recommendation that includes the following:
  - Congo should invest $20M in Automation upgrades at AVP1 and FTW1
  - Doing so will increase Net Income by $245M / 60% (or $140M/33% or $105/25%)
  - Implement productivity practices from AVP1/FTW1 at other facilities to increase output
  - Further Automation could also decrease SG&A costs
  - Risks: implementation costs, disruption of current operations, dependency on US DOT, more automation means higher maintenance costs
  - Next Steps: firm could help renegotiate trailer contracts, prepare distribution network for higher utilization and higher productivity at other facilities.

# Evaluation Criteria

| Candidate Level | Assessment |
|---|---|
| Average Candidate | • Covers revenues and costs in framework<br>• Doesn't immediately recognize costs are driving profitability problems<br>• Doesn't quickly identify any particular facility to focus cost savings on<br>• Incorrect or sluggish calculation, requires exhibits |
| Good Candidate | • Extensive framework, including: costs, revenues, unit cost, fixed and includes ideas like automation, logistics, competition<br>• Quickly recognizes costs are main focus and can determine Transportation costs are main focus<br>• Recognizes FTW1 is biggest cost saving opportunity<br>• Requires exhibits for calculation, but correct |
| Excellent Candidate | • Framework is excellent<br>• Quickly recognizes Transportation Costs as main<br>• Keeps $ and volume notes about each exhibit<br>• Recognizes FTW1 + AVP1 are best opportunity<br>• Does not require exhibits (much) for calculation<br>• Strong recommendation |