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The Duke MBA Consulting Club Casebook 2015-2016

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Editor’s Note

Welcome first year students:

The Duke MBA Consulting Club (DMCC) is proud to present the 2015-2016 DMCC Casebook. This year we have included over 20 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.

A couple of changes have been made to enhance the training of those utilizing the book. First, we have included industry one pagers to give you an overview of each industry. Second, although we cannot prepare you for everything you might encounter during a your case interviews we went to great lengths to better diversify the case content. Current cases cover a wide variety of topics from pharmaceuticals to aerospace, across several problem types. Finally, we have included a resource page and feedback form to help you prepare and help us improve the case book.

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 case book during their preparation, we warmly welcome you to “Team Fuqua.”

Good luck!

Aqeel Alrajhi, Rohit Ray and Jessica Stone

The DMCC 2015 Casebook Team

Acknowledgements

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

Alice Fan, Amelia Henderson, Aqeel Alrajhi, Boris Reznikov, Cullen Breithaupt, Daisuke Mori, Goran Bistric, Irakli Pkhovelishvili, Jason Nickerson, Jessica Stone, Kurt Bazarewski, Kyla Lawrence, Laura McLellan, Mallory White, Matt Mersky, Mike Bentson, Mike Lloyd, Munny Munford, Rishav Gandhi, Rohit Ray, Ronnie Sheng, Sophie Solomon, Tarun Mathur, Wenkai Sun

In addition, we would like to thank Deloitte and Accenture for providing cases for this year's book.

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 Private label products, home remedies Chobani
Customers	Walmart, Sams, Costco, Target, Grocery stores, Convenience stores
Distribution channel(s)	Wholesale to customers (Walmart, etc.) 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 is critical to fight product commoditization

Oil & Gas

Products/services	Products are categorized along the value chain as upstream and 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 Oilfield services: Schlumberger, Halliburton, Baker Hughes Downstream: BASF, Dow, SABIC
Customers	Governments, CPG producers, Utilities companies
Distribution channel(s)	Wholesale to customers: in large quantities Traders: in smaller quantities
Suppliers/ supply chain	Products are mostly transported in large quantities by vessels and requiring long lead times.
Key trends	Oil prices dropped by more than 50% since July 2014 as a result of increased supply from shale oil and conventional oil suppliers. Also, demand is slowing down from emerging economies.

Manufacturing

Products/services	Manufacturing sector includes companies that are 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.) 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")

Financial Services

Products/services	Deposit-based services, credit cards, consumer loans (personal and business), payments, insurance, 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. Largest players' services extend well beyond commercial banking to investment banking, securitization, proprietary trading, etc. with services that are increasingly opaque
Customers	Individual consumers High net worth consumers (priority segment) 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. Increasing use of ATM services, online banking 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 Demographic shift (baby boomer aging) creating large market for retirement products Offshoring of various functions to reduce expenses (e.g. call centers, back office functions)

Private Equity/Investments

Products/services	Equity that is not publicly traded Common forms include Leveraged Buyouts (LBOs), Venture Capital (VC), Mezzanine Capital, Distressed Investments, and Growth Capital
Revenue	Return on investments, management fees 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 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 Institutional investors 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 Venture Capital: investors give cash in exchange for shares/control; typical with start-ups Mezzanine Capital: financing that contains equity based options and subordinated debt (e.g. convertible loans) Growth capital: financing to expand, restructure, or enter new markets with little change in management Distressed Investments: investing in financially stressed companies
Suppliers	Private investors, large corporations, foundations
Key trends	Larger amounts of equity required for each deal, Startup financial performance not always meeting high valuations Health care and tech are seeing most of the activity Buying and selling of current PE commitments likely to increase over the next few years 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 patent expires)
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 these medicines Insurance companies that pay for them (i.e. private insurers, Medicare (over 65), Medicaid (low-income/disabled) Patients/consumers who need these drugs/medicines In some emerging markets officials (provincial and central government) may control channel access
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 → Drug wholesaler/distributor → retailer/pharmacy/doctor's office/hospital → 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
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
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.
Customers	Individual passengers, corporate travelers, travel agents/websites
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.)
Suppliers/ supply chain	Aircraft manufacturer, avionics manufacturer, aircraft leasing companies, fuel providers, airport operators, flight training providers, catering providers, aircraft maintenance providers
Key trends	Growth is limited in this market, in 2014 growth was 3%, total expected growth by 2019 in 8.3% over the passenger volume in 2014. Recent years have seen consolidation of legacy carriers (United and Continental, American and US Airways)

Media

Products/services	Media sector includes print, audio and video content generation and distribution.
Revenue	Advertising is a key revenue driver, additional revenue sources are subscriptions, one-time purchases (video on demand, DVD purchase), licensing fees
Costs	Production costs (salary, technology, location fees etc), distribution costs, marketing and advertising, promotions, capital costs (studios, equipment etc.)
Competitive landscape (competitors, substitutes, new entrants)	Highly competitive with a few major players owning most of the market. New entrants such as Hulu and Netflix are changing the market.
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 the customer.
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 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

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Fuqua Casing Resources

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

http://daytimemba.orgsync.com/org/thedukembaconsultingclub/Casebooks

- Included in this year's book are several cases from Deloitte and Accenture. 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**: http://goo.gl/forms/Y8x1YRuusg

Case List

Case #	Name	Industry	Qual	Quant	Page
1	Board Game Co	Entertainment	Medium	Difficult	19
2	Green MEG	Chemicals	Medium	Very Difficult	31
3	Defecation Nation	Other	Medium	Medium	40
4	ML Bank is Tanking	Financial Services	Medium	Easy	50
5	Ecosystems International	Human Capital	Medium	N/A	59
6	Entrepreneurship in Alphabet City	Public sector	Medium	Easy	68
7	Farmer Charlie	Agriculture	Difficult	Medium	78
8	GreenCo (Deloitte Mock Case)	Manufacturing/Retail	N/A	N/A	89
9	Koot-Ease	Healthcare	Difficult	Medium	99
10	Layup Lines Design LLC	Retail	Medium	Easy	109
11	Mission Eternity	Other	Difficult	Medium	120
12	Money on My Mine	Mining	Easy	Medium	133
13	Nick Tupoi - Candidate for MBA	Education	Easy	Medium	141

Case List

Case #	Name	Industry	Qual	Quant	Page
14	Not-So-Poshtel	Travel	Easy	Medium	151
15	Refinery in the Country of Georgia	Oil & Gas	Medium	Medium	160
16	Snail Network Co	Telecommunications	Easy	Difficult	174
17	Te(ch)trix	Technology	Medium	Medium	187
18	ValueCenter	Human Capital	Medium	N/A	196
19	Walter Black Industries	Chemicals	Difficult	Medium	201
20	Health Plan Integration	Human Capital	Medium	N/A	215
21	A mobile telecom company in UK	Telecommunications	Medium	Medium	222
22	Activist Action	CPG	Difficult	Difficult	230
23	Surfboard Wax (Accenture)	Retail	N/A	N/A	242
24	Mobilizing Your World (Accenture)	Telecommunications	N/A	N/A	249
25	Bumbardia	Aerospace	Easy	Easy	256
26	Fun with FinTeck	Banking	Medium	Medium	264

Case #1: Board Game Co. (BGC)

Quantitative level: Difficult
Qualitative level: Medium

Deloitte Case Writing Competition 3rd Place

Behavioral Questions

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Question 1:

- Tell me about something that’s not on your resume.

Question 2:

- Tell me about a time you failed.

Board Games Co.

Prompt #1:

Board Games Co. (BGC) is a small board game distributor in the U.S. As board games like Settlers of Catan and Monopoly have made a resurgence in the market place, so has BGC. However, recent financial reports show that BGC's profit have declined over the last three years, and they've hired us to diagnose the issue.

Interviewer Guidance:

- BGC sells to boutique gaming retailers
- BGC sells 5 SKUs
- BGC has 3 distribution centers (Georgia, Nevada, and New York)
- Financials (Interviewer should wait to provide to interviewee until after framework)
  - BGC's sales were \$20M in 2012, \$22M in 2013, and \$25M in 2014
  - BGC's profits were \$2.0M in 2012, \$1.8M in 2013, and \$1.4M in 2014

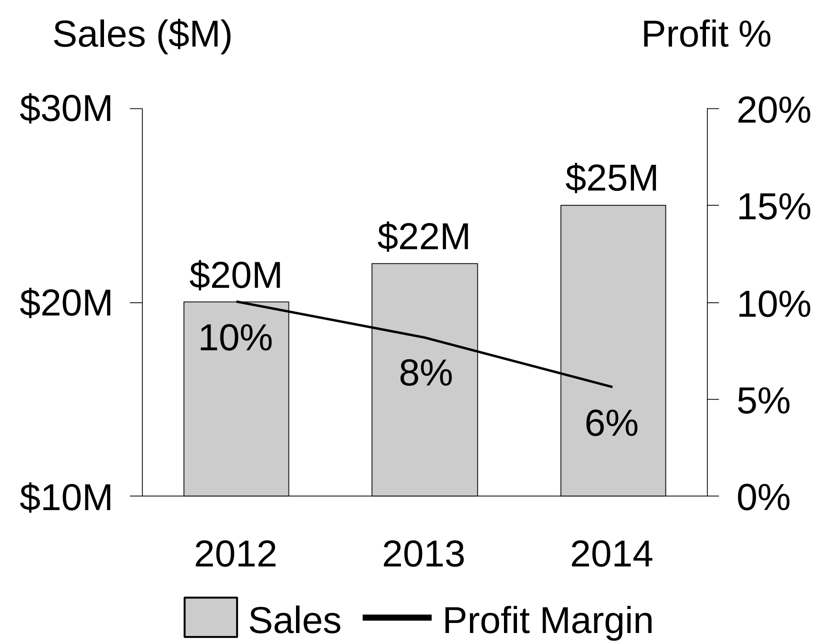
- Interviewee should recognize this as a profitability case. Their framework will most likely have three columns (revenue, costs, market/other)

Exhibit 1

Historical Financials ($M)

	2012	2013	2014
Sales	20.0	22.0	25.0
COGS	8.0	9.0	10.0
Gross Margin	12.0	13.0	15.0
SG&A	10.0	11.2	13.6
Profit	2.0	1.8	1.4

Sales & Profit Graph



Interviewer guidance on Exhibit 1

Exhibit Guidance:

- Exhibit represents high-level three-year financials for BGC
- Interviewee should want to dig deeper into SG&A costs (Exhibit 2) – interviewer should help them get to that point

Analysis:

- Interviewee should draw the following insights:
  - Sales are rising steadily (10% in 2013 and 14% in 2014)
  - COGS are rising with sales, so no issues there
  - SG&A rising faster than sales is the MAIN insight from this exhibit

Exhibit 2

SG&A Historical Financials Deep Dive ($M)

	2012 ($M)	2013 ($M)	2014 ($M)
Salaries & Wages	3.0	3.3	3.8
Rent	1.3	1.3	1.3
Advertising	1.6	1.8	2.0
Utilities	0.3	0.4	0.4
Travel & Entertainment	0.5	0.6	0.6
Shipping & Delivery	2.0	2.5	4.0
Maintenance & Repairs	0.4	0.5	0.5
Miscellaneous	0.9	1.0	1.1
Total	$10.0M	$11.2M	$13.6M

Interviewer guidance on Exhibit 2

Exhibit Guidance:

- This exhibit is the line-item SG&A breakout – the interviewee should have pointed out SG&A costs as being the main profitability driver and now wants to look at the deep dive
- Interviewee should recognize that shipping and delivery costs are rising much faster than sales

Exhibit 3

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2014 Forecast, Actual Demand, and Fill Rates

	Forecasted Demand	Actual Demand	Primary Fill Rate	Secondary Fill Rate	Tertiary Fill Rate
SKU 1	500,000	500,000	70%	20%	10%
SKU 2	420,000	400,000	50%	25%	25%
SKU 3	510,000	500,000	40%	60%	0%
SKU 4	420,000	400,000	50%	50%	0%
SKU 5	550,000	500,000	50%	20%	30%

Note 1: Fill rates refer to the ability of the supply chain to fill and deliver the product from the nearest distribution center to the customer (e.g., primary fill means the product was delivered from the closest DC, secondary means 2nd closest DC, tertiary means 3rd closest DC)

Note 2: It costs BGC $1(per item shipped) for primary fill, $2 for secondary fill, and $4 for tertiary fill

Interviewer guidance on Exhibit 3

Exhibit Guidance:

- Interviewer should now provide insight that shipping and delivery costs have been an increasing concern, mainly because of low primary fill rates from the three distribution centers

Analysis:

- There are two main take-aways:
  - The company actually does a good job with forecasting, which means inventory holding costs are not the issue
  - The company has poor inventory allocation (e.g., they're holding the right amount company-wide, but not allocating it correctly across its distribution centers – leading to poor primary fill rates) – which is costing a ton of money
- To analyze the additional costs from not having all orders ship from the primary distribution center, the interviewee should:
  - First, calculate the number of units going secondary and tertiary for each SKU
  - Second, calculate the savings from filling an order primary vs. secondary, and primary vs. tertiary
  - Third, multiply units by savings
  - Fourth, get a maximum savings possible of ~$1.7M
- See Exhibit 3 Back-Up slide for filled in chart plus calculations

Exhibit 3 (Back-Up)

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2014 Forecast, Actual Demand, and Fill Rates

	Actual Demand	Secondary Fill Rate	Secondary Units Filled	Savings If Primary Fill	Tertiary Fill Rate	Tertiary Units Filled	Savings If Primary Fill	Total Possible Savings
SKU 1	500,000	20%	100,000	100,000	10%	50,000	150,000	250,000
SKU 2	400,000	25%	100,000	100,000	25%	100,000	300,000	400,000
SKU 3	500,000	60%	300,000	300,000	0%	0	0	300,000
SKU 4	400,000	50%	200,000	200,000	0%	0	0	200,000
SKU 5	500,000	20%	100,000	100,000	30%	150,000	450,000	550,000
								1,700,000

Interviewee should recognize there are possible inventory allocation savings of ~$1.7M which would nearly double current 2014 profit ($1.4M to $3.1M)

Interviewer guidance on Recommendation

- Interviewee should make a recommendation that states:
  - The company is having a profit issue due to rising costs
  - The main reason for rising costs is due to poor fill rates driven by poor inventory allocation (leaving ~$1.7M on the table)
  - Recommendation should be to take another look at the inventory allocation process to understand whether or not inventory could be allocated in a more efficient manner
  - Additional recommendation would recognize the trade-offs between holding more inventory at each distribution center versus simply re-allocating – which would increase inventory holding costs, but ultimately might be a better idea

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Framework may be weak (e.g., revenue and costs suggestions may not be broken out) • Candidate may understand the need to calculate savings after prompted and math may be weak
Good Candidate	• Concrete framework (e.g., revenue and costs broken out separately with examples) • Candidate will draw insights regarding SG&A costs being the basis for profitability issues • Recognition of the need to calculate savings, but may stumble through setting up the problem
Excellent Candidate	• Solid framework (see bullet 1 in "Good") • Few math errors • Concrete summary • Will suggest the company is good at forecasting, but poor at inventory allocation – will suggest follow-up supply chain inventory deep dive

Case #2: Green MEG

Quantitative level: Very Difficult
Qualitative level: Medium

Behavioral Questions

Question 1:
• What's the craziest thing you have done?

Question 2:
• Tell me about a time you burned a bridge.

Green MEG

Prompt #1:

- Your client, Glycolia, is the manufacturer of mono-ethylene-glycol (MEG), a chemical which is mainly used in producing plastic bottles and antifreeze. Currently, MEG is produced using conventional sources through natural gas. Greenya, a research company, has recently registered a patent to manufacture environmentally friendly, green MEG using corn-based ethanol. Glycolia is thinking it may be able to charge a price premium for the green MEG and it is considering to buy the patent from Greenya. Should they do it?

Interviewer Guidance:

- This is a hybrid profitability/market entry case. The financial analysis is key here and this is where the case is supposed to be driven towards.
- Background information if the interviewee asks for it:
  - This patent is the first of its kind. All the current market players are producing MEG using the conventional method.
  - Glycolia is currently the second biggest player in the market with 20% market share with annual sales of 1 M metric ton/year. The biggest and third largest players have market shares of 25% and 15% respectively.
  - Glycolia sells its MEG to major consumer brands globally.
  - Greenya is interested in selling its patent to the highest bidder.
- One way to structure the framework is:
  - Revenue: additional revenue from pricing green MEG at higher level, stronger PR and increasing market share, by-products from this new process, patent leasing to other suppliers
  - Costs: Investment cost (patent, land, plant construction, etc), operational costs (raw materials, labor, maintenance, etc)
  - Risks: similar patents in the future, reverse engineering, customers are not willing to pay premium for the green MEG

Green MEG

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Prompt #2:

- The market research team has performed some surveys asking Glycolia's current customers about their willingness to pay (WTP) for the green MEG. The average customers say that they are willing to pay 20% for the green MEG over the market price for the conventional MEG. Exhibit 1 shows the market prices for conventional MEG over the past 3 years.
- Greenya is willing to sell its patent to Glycolia for 2 USD billions. The plant construction and all startup costs are expected to be 1 USD billion.
- Greenya and Glycolia have put together the following Exhibit 2 to show the operational costs associated with the green vs conventional MEG production. (Give the candidate exhibits 1 and 2)

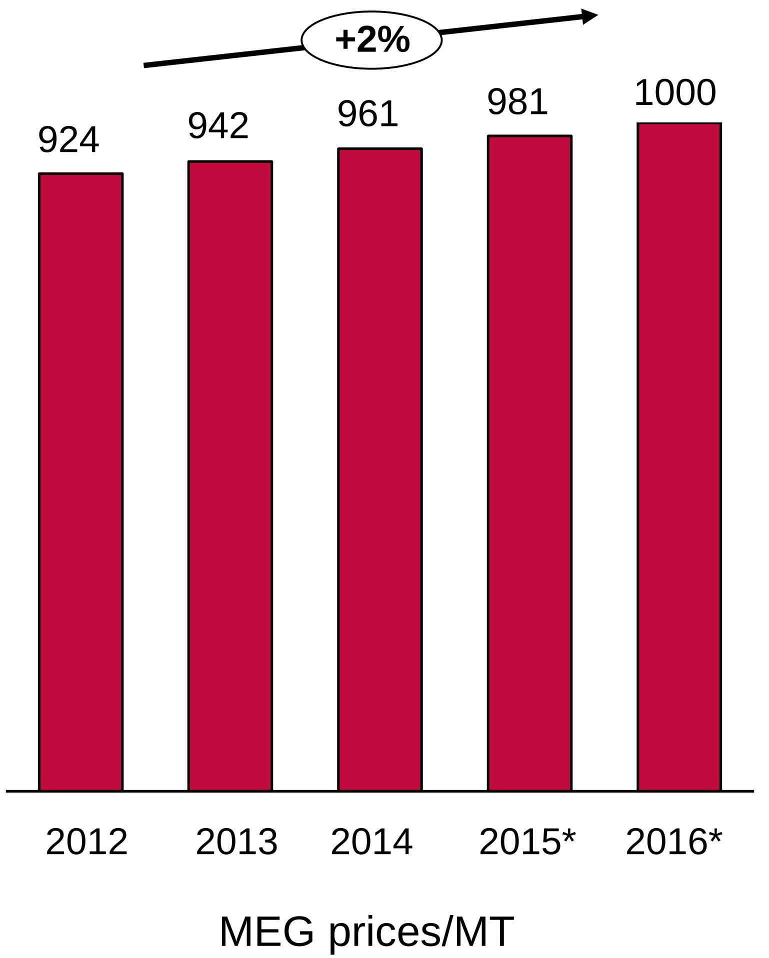
Exhibit #1 Guidance:

- The interviewee can assume that prices and costs will grow annually at 2%
- The interviewee should project the prices for green MEG by factoring the 20% premium.
- If Glycolia buys the patent, it can commission the plant in 2016.
- All the construction costs are all depreciable over 20 years
- Our consulting fees = 50 M USD (sunk costs)
- SG&A costs are $20/MT for both conventional and green
- Taxes = 30%
- Assume no additional capex or change in working capital
- Assume discount rate of 12%
- Perpetuity formula can be used to calculate the terminal value

Analysis:

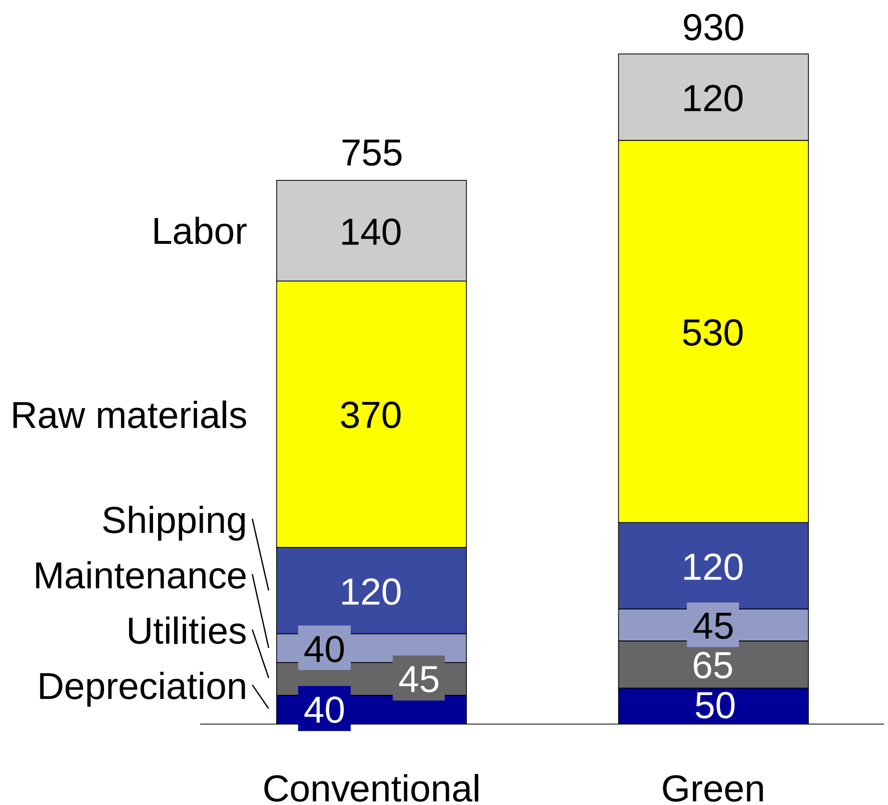
- This is a DCF analysis to assess the feasibility of the green MEG plant as of 2016.
- Step 1: EBIT (per MT 2016) = Rev- costs
- Revenue = 1000 * (1+20%) = 1,200
- Costs = cogs + SG&A = 930 + 20 = 950
- EBIT = 1,200 – 950 = 250
- FCF = EBIT * (1-taxes) + Depreciation= 250*(1-30%) + 50 = 225 $/MT
- FCF (annual) = 225 * 1 M = 225 M USD
- Terminal value = FCF/(discount rate-growth rate) = 225 M/(12%-2%) = 2.25 B USD
- NPV (2016) = PV(benefits) – PV(costs) = 2.25 B – 3 B = -0.75 B

Exhibit 1: Revenue



* Projected prices

Exhibit 2: Costs



MEG operating costs/MT, 2016*

* Projected prices

Green MEG

Prompt #3:

- Drinkya, a major bottled beverage manufacturer and one of Glycolia's current customers, heard about your interest in the green MEG. Drinkya is very interested in producing environmentally friendly bottled drinks using your green MEG, so it offered Glycolia to sign an offtake agreement for 5 years, where Drinkya will buy all of Glycolia's green MEG for 35% premium. What should Glycolia do? What strategic considerations to be kept in mind?

Interviewer Guidance:

- This prompt is to test the interviewee's ability to adjust numbers quickly:
  - Revenue = 1000*(1+35%) = 1,350
  - EBIT = 1,350 – 950 = 400
  - FCF = 400*(1-30%) + Dep = 330
  - FCF Annual = 330 * 1 M = 330 M USD
  - Terminal value = 330 M/10% = 3.3 B USD
  - NPV = 3.3 B – 3 B = 0.3 B USD
- Given the positive NPV, financially it is a feasible venture. However, there are other strategic considerations that should be considered here:

+ Dealing with only one customer will result in multiple savings: shipping costs, overheads, demand forecast stability, etc.

+ Having an offtake agreement will reduce the risk of having unsold product and hence, optimize revenues.

- Being totally dependent on one buyer has non-diversification risks, as being more susceptible to your customer's cyclicality.

- Drinkya may ask to renew the contract at lower terms after 5 years, hence affecting the venture's financials.

Green MEG

Recommendation

- Glycolia CEO is about to come in. What is your final recommendation?

Interviewer Guidance:

- As the NPV analysis shows, this is an unfeasible venture. Even with offtake scenario, the number is slightly positive given the large investment of 3 B.
- A Good candidate can propose ways to improve the NPV such as considering partnering with Greenya rather than buying the technology. Also, explore the possibility of buying and then licensing the technology to other players.
- Explore further the PR benefits of entering such an industry and possibly growing further business by being the preferred supplier since it has exclusive rights to the green MEG.
- An excellent interviewee should highlight the risks arising if one of the other competitors buys this technology.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Can go through the case with further approximation of numbers. Also, may miss a few points by not adding depreciation or including sunk costs
Good Candidate	Can do all the math correctly, but miss the strategic dimension of the case by missing the potential strategic partnerships that could be formed either with Greenya (other alternatives) or growing business in the future.
Excellent Candidate	Can do all the math correctly without approximations. Capture the key strategic considerations and alternatives to be explored with Greenya. Identify the potential risks if any of the competitors buys this technology.

Case #3: Defecation Nation

Quantitative level: Medium
Qualitative level: Medium

Behavioral Questions

Question 1:
• Tell me about a time you were thrown into an unfamiliar situation and had to learn quickly.

Question 2:
• Consulting can be stressful at times. Drawing from your previous experience, how do you manage stress?

Defecation Nation

Prompt #1:

Founded in 1984, your client, Pushman Potties, is a major US manufacturer of portable toilets, commonly referred to as "porta-potties". Pushman Potties' porta-potties are typically found in construction sites, agricultural fields, and other industrial settings. However, over the past several years sales of Pushman's standard porta-potties have stagnated, so the management team has approached your firm for help. With this in mind, what are some potential avenues for revenue growth?

Interviewer Guidance:

- Provide if requested:
  - **Products**: Pushman's primary product is a standard industrial porta-potty. Several versions exist, but all are variants of the same base model.
  - **Geography**: Pushman has a broad footprint in the US. It serves all 50 states from regional offices in 32 states. Pushman currently has no international presence.
  - **Business Model**: Pushman Potties are typically rented on a weekly or monthly basis. Maintenance is included in the rental agreement, and is provided by Pushman.
  - **Size**: In 2014, Pushman recorded approximately $650M in revenue, down from $670M in 2013.
  - **Competitors**: Pushman has traditionally been the category leader in sales. Competitor financial information is not available.

Defecation Nation

Interviewer Guidance:

- This case is meant to be driven along by the interviewee, so wait for him/her to do so after each prompt.
- A good candidate will understand that the initial prompt asks about revenue growth and not profitability, and thus will focus on revenue.
- Interviewee should develop a MECE framework that covers most or all of the following: existing/new customers, existing/new products (can be illustrated in a 2x2 grid), pricing, competitive landscape, entry strategy (build/buy), risks, among others.
- If the interviewee does not mention anything about new products, probe further in order to guide him/her towards this direction.

Defecation Nation

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #2:

Pullman is primarily interested in entering the luxury porta-potty market. Such units feature all the amenities that are found in stationary public restrooms, including running water (both hot and cold), mirrors, lighting, and air conditioning. How would you approach estimating the size of the opportunity for such a product?

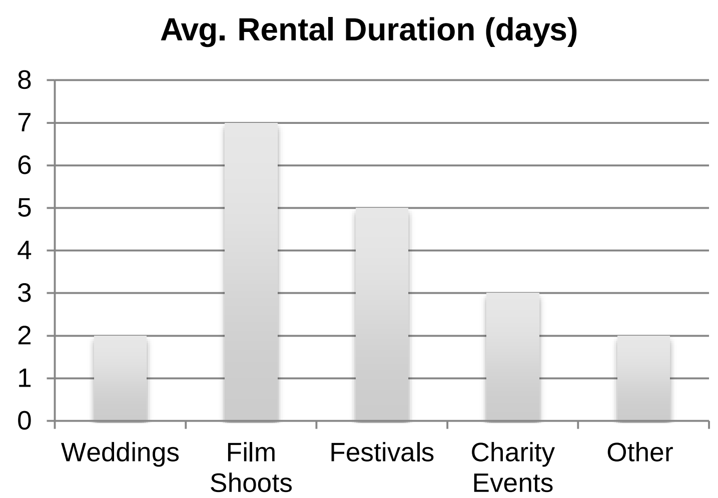
Interviewer Guidance:

- A good candidate will describe *how* to arrive at a number instead of jumping into calculations. If the interviewee immediately jumps into calculations, guide him/her to think of an approach first.
- A logical way to begin is to brainstorm potential use cases for such a product, which can include weddings, film shoots, festivals and high-end events.
- Given these use cases, a key realization is that such units would be rented instead of purchased (if the interviewee does not make this realization, guide him/her to it).
- The interviewee should mention what % of each event type would require such a product, the duration of rental, # of units, and pricing, among other considerations.
- *After the interviewee lays out a sufficiently logical approach, provide Exhibit 1.*

Exhibit #1

Number of Events/Year by US Region, 2013

	West	Midwest	NE	SE	SW
Weddings*	410	210	500	380	350
Film Shoots	790	400	650	340	420
Festivals	700	410	500	490	400
Charity Events	350	140	380	280	250
Other Events	590	340	610	360	350



Hypothesized Pricing Scheme

	Price per Unit per Day ($)
<2 days	1,500
3-4 days	1,300
5-6 days	1,000
>7 days	700

* Number in ‘000s

Interviewer guidance on Exhibit 1

Exhibit #1 Guidance:

- Allow the interviewee to round numbers. For simplicity, assume that each rental is for one unit.
- A key missing piece to this exhibit is the percentage of each event type that will require a luxury porta-potty. **When this topic is broached**, provide the following information:
  - Weddings 2%
  - Film Shoots 35%
  - Festivals 50%
  - Charity Events 25%
  - Other 20%
- A good candidate will make an attempt to put the final revenue number into context, and will make note of the fact that weddings account for ~90% of projected revenue (total revenue may be slightly off due to rounding).

Analysis:

- Revenue = (total # of events) x (% requiring) x (avg. rental duration) x (price/day)

	Total # of Events	% Requiring Lux. PP	Revenue
Weddings	1,850,000	37,000	111M
Film Shoots	2,600	910	4.5M
Festivals	2,500	1,250	6.3M
Charity Events	1,400	350	1.4M
Other Events	2,250	450	1.4M
		Total Revenue:	**$124.6M**

Defecation Nation

Prompt #3:

Pushman believes this represents an attractive opportunity. What else should management consider in determining how best to enter the market?

Interviewer Guidance:

- A good candidate will mention, among other considerations:
  - Competitive Landscape
  - Buy/Build
  - Product Economics
  - Risks (marriage trends, overall economic conditions, etc.)
- After candidate finishes explaining, probe further by asking if there is anything else the client should consider.

Defecation Nation

Recommendation

- Patrick Pushman, CEO of Pushman Potties, has just walked into the room and is anxiously waiting to hear your thoughts on the future of his company. Please present your findings.

Interviewer Guidance:

- The interviewee should immediately begin summarizing his/her findings, which should include:
  - Go/No go recommendation
  - Size of opportunity represented by luxury porta-potties
  - Other considerations
  - Risks
  - Next steps

Evaluation Criteria

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
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, use round numbers to facilitate quick and accurate calculations, remember to ask about the % of events that will require a rental, put numbers into perspective, and will drive the case forward at each step

Case #4: ML Bank is Tanking

Quantitative level: Easy
Qualitative level: Medium

Behavioral Questions

Question 1:
• Tell me about a time you had to overcome an obstacle.

Question 2:
• Tell me about a time you had to work with a difficult teammate, client, or customer. How did you overcome this?

ML Bank is Tanking

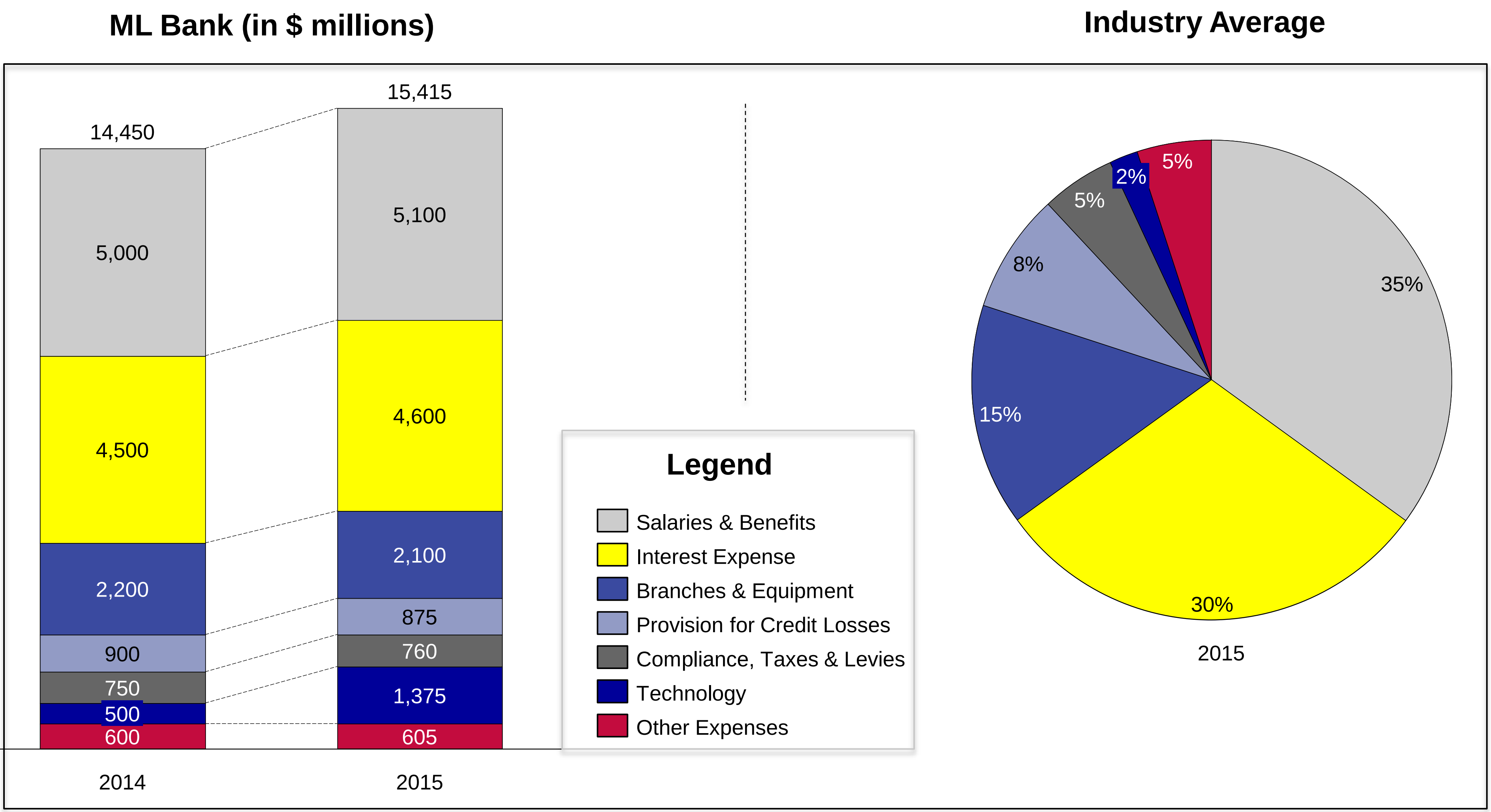
Prompt #1:

- Our client, ML Bank, is the 5th largest bank in North America in terms of number of branch locations, with over $20B in revenue in 2015. They've grown to this size through years of inorganic growth, with several acquisitions within the past few years. They've recently engaged a consulting firm to conduct a benchmarking study which revealed their costs are over-market by $400M. They've hired you to identify and fix the underlying cause of this discrepancy.

Interviewer Guidance:

- The interviewee should quickly realize this is a cost problem, and not a revenue or profit problem. They should focus on building a MECE approach for potential cost drivers at a large financial institution, including, but not limited to: salaries & benefits, interest expense, branches and equipment, provision for credit losses (or bad debt expense), compliance, taxes, technology, marketing, etc. A great framework will tie increases in costs to the recent acquisitions.
- Information to be given if asked:
  - ML Bank focuses on retail banking and has over 1,000 locations throughout the Northeastern US and Canada
  - Most of their acquisitions have been mid-size banks in the Northeastern US and regional credit card portfolios
  - Profits have remained steady despite the cost discrepancy
  - Assume there are no other goals that the bank has at this time other than to reduce costs
- After presenting their framework, push the interviewee for a theory on why the banks' costs are off-market, and **hand over Exhibit #1**

Exhibit #1: Costs



Interviewer guidance on Exhibit #1

Exhibit #1 Guidance:

- Exhibit 1 displays the cost breakdown at ML Bank over 2014 and 2015, and shows the industry average for costs in 2015. The interviewee should be able to quickly synthesize analysis to compare costs at ML Bank over 2014 and 2015 and compare their relative percentages to the industry average. The conclusion should be that Technology costs are what is driving costs being over-market.
- It is OK for the interviewee to round numbers in their approach.
- After completing the analysis, the interviewee should begin to theorize possible reasons for increased technology costs. If not, **ask the interviewee to come up with a list of reasons for why technology costs could have increased so much over the prior year.**

Analysis:

- Identifying that Technology is the major problem area is not complicated. If the interviewee gets there quickly without the analysis, push them to see if they are sure.
- A complete analysis should compare relative percentage of costs in 2015 to the 2015 industry average. In addition, a good candidate will perform the math to show that between 2014 and 2015, Technology costs went from 3% of total costs to 10% of total costs, despite the industry average being 2%.
- An advanced analysis would highlight both of the above, while also identifying potential reasons for the increased technology costs.

ML Bank	YoY % Change	2014 % of Costs	2015 % of Costs	Industry Avg.
Salaries & Benefits	2%	35%	35%	35%
Interest Expense	2%	31%	32%	30%
Branches & Equipment	(5%)	15%	15%	15%
Provision for Credit Losses	(3%)	6%	6%	8%
Compliance, Taxes & Levies	1%	5%	5%	5%
Technology	175%	3%	10%	2%
Other Expenses	1%	4%	4%	5%

ML Bank is Tanking

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Prompt #2: Brainstorming

- What are some potential reasons for the large increase in technology expenditures?
- Push the interviewee to list a few reasons for the increase. Afterwards, **hand them Exhibit #2**, and **say the following**: “The CTO has identified several IT systems that are high cost-drivers and prime for removal. The goal is a 17.5% reduction in technology costs over the next two years. Given this information, which option do you recommend the bank proceed with?”
- Do not provide the current technology costs number, as this information is in Exhibit #1.

Interviewer Guidance:

- A **good answer** would highlight the increase in technology expenditures due to ML Bank’s recent acquisitions. As indicated in the initial prompt, ML Bank has recently undergone acquisitions of mid-size banks in the Northeastern US as well as regional credit card portfolios. Along with these acquisitions comes merging entire technology portfolios: IT applications, software licenses, IT staff, data centers, servers, and customer-facing IT channels such as websites, web applications, and call centers. Mergers create bloated IT portfolios and thus costs over the industry benchmark.
- A **great answer** will go into potential ways to reduce these costs, including eliminating and streamlining redundant applications.

Optional Tech Case Question:

Interviews for Technology Consulting positions will push further and ask for recommendations on how to reduce technology costs at ML Bank

- This could include: Application Rationalization and Standardization, ERP Implementation, Storage Optimization (including Cloud storage), Server Optimization, Data Center Optimization, Mainframe consolidation, LAN/WAN/Voice and Data Network Optimization, PC Management, Maintenance and Help Desk Outsourcing, etc.
- The Technology Consulting interviewee should ensure that the technology strategy is aligned with overall business strategy, and that all changes should have an impact analysis across a People, Processes, and Technology framework

Exhibit #2: High-Cost Systems

System Name	System Function	Age of System (Years)	System Business Need*	Customers Supported	Annual Cost (Millions)	Time to Transition** (yrs)
PRS-1	Payroll Reporting	9	Medium	0	$10	0.5
BHRIMS	Human Resources Management	5	High	0	$50	1.0
CIMS	Customer Relationship Management	7	High	20,000	$150	0.5
AIMS	Internal Accounting	3	Low	0	$100	1.0
PIDS	Customer Product Information	11	Medium	35,000	$50	0.5
HRIS-1	Human Resources Management	10	Medium	0	$150	1.5

***System Business Need** is a rough determination of how the system aligns with overall future business strategy.
****Time to Transition** is an estimate of how long it would take to transition from this system to a new one.

Interviewer Guidance on Exhibit #2

Recommendation

- A 17.5% reduction in Technology costs entails a reduction of ~$240M (=$1.375B * 17.5%; let the candidate become comfortable in the calculation). To achieve this reduction, ML Bank would have to eliminate systems that are duplicative, expensive, severely aged and/or have low business need. A good interviewee will be able to talk qualitatively about each column as an important factor in the decision making process, and use those factors to select the right systems to retire.
- The recommended approach would be to eliminate AIMS and HRIS-1. AIMS has a low business need and is expensive; HRIS-1 is a duplicate system to BHRIMS (both do Human Resources Management), has a medium business need (compared to high with BHRIMS), and yet more expensive. The combined savings by eliminating these two systems is $250M, which more than meets the 17.5% reduction goal, and brings total bank costs closer to the industry benchmark (ML Bank was found to be $400M over-market in costs).

System Name	System Function	Age of System (Years)	System Business Need*	Customers Supported	Annual Cost (Millions)	Time to Transition** (yrs)
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BHRIMS	Human Resources Management	5	High	0	$50	1.0
CIMS	Customer Relationship Management	7	High	20,000	$150	0.5
✓ AIMS	Internal Accounting	3	Low	0	$150	1.0
PIDS	Customer Product Information	11	Medium	35,000	$50	0.5
✓ HRIS-1	Human Resources Management	10	Medium	0	$100	1.5

ML Bank's Costs are Too Damn High

Recommendation Prompt

Thomas Drake, the CTO for ML Bank, wants to meet for lunch and discuss your recommendation. How would you summarize your findings?

Interviewer Guidance:

- A good interviewee should highlight that by eliminating AIMS and HRIS-1, ML Bank will meet the CTO's goals of 17.5% reduction in technology costs over the next two years.
- A great interviewer will tie this back to the initial problem, that their costs are $400M over-market, and that this reduction will get them closer to the market benchmark, and yet there is room to further cover the gap .
- Potential risks include the threat of losing business continuity by eliminating these systems, the costs to eliminate the system - migrating data from one system over to the other, the potential for contractual system license costs perpetuating over the next two years, etc.
- Mitigations include outlining a roadmap to get to the desired end state – identifying a target state IT application portfolio, and mapping out the required steps (migration, platform standardization, ERP system implementation) to get from the current state to the target state. (*NOTE*: This sort of answer is required for Technology Consulting interviews).
- Next steps include identifying the scope of the systems, the determined steps to ensure business continuity, and outlining a roadmap to system end-date (sunset date) to achieve these cost synergies.

Case #5: Ecosystems International

Quantitative level: Not applicable
Qualitative level: Medium

Behavioral Questions

Question 1:
• What are your three greatest weaknesses?

Question 2:
• Please provide an example of a time where your moral and/or ethical standards were tested in a prior work experience. How did you handle the situation? What would you do differently in retrospect?

Ecosystems International

Prompt:

Ecosystems International (EI) is a nonprofit organization that works to preserve endangered ecosystems throughout the world. The organization is comprised of a headquarters and 120 local offices across the globe. Historically, headquarters has provided local offices with standardized curriculum and marketing materials, but each local office has operated independently with its own board of directors, operating processes and data management systems. In recent years, EI headquarters has been working to change this, particularly in regards to data management. In order to better fundraise with corporate-level donors, EI headquarters wants to be able to see and report real time information on the organization's volunteers and fundraising information. In order to accomplish this, EI recently mandated that local offices convert to a central CRM over the next five years. This mandate was met with great resistance from many EI local offices and since the beginning of the project, headquarters has been concerned about the success and reputation of the project.

Using an internal team, EI piloted implementing the CRM system at six local offices. Each of these offices had different legacy data management systems and business process transformations that needed to be taken into consideration. After a year of piloting the system, the project has suffered considerable challenges. EI headquarters is receiving calls from local office leadership complaining that the system is cumbersome and employees are tremendously overworked trying to adjust to it. In addition, the implementation team is struggling because each local office data varies greatly, local office leadership is not engaging their staff to adapt to the new system, and there is considerable evidence that employees are not actually using the system. (see next slide)

Ecosystems International

Prompt con't:

Overall, the local office pilots have not been successful and word is spreading throughout the entire organization that the CRM adoption is a colossal failure. EI has brought you in to advise them on next steps. In particular, the team would like help determining:

- Who are the stakeholders that need to be most considered in order to achieve success?
- What risks does EI face in this project?
- What approach should EI take to ensure that this project does not fail? How should it implement the software for the other 114 locations?

Interviewer Guidance:

Human capital cases are conversational, but the candidate should take a few minutes to set up a framework for how they will approach EI's adoption of the new system. Prior to setting up their framework, the candidate is permitted to ask a few questions. If solicited, the interviewer can provide additional information provided in the slides to follow. If the candidate asks a question for which the answer is not provided, just reply that the information is not available.

Ecosystems International

Additional Information (if solicited)

- **What is the organization's structure?**
  - The organization is comprised of a headquarters and 120 locations, which are local offices of EI. Local offices vary greatly in their structure and size. They range from 1 - 100 employees and sometimes are flat but can also have multiple branches and hierarchies within one local office. No two local offices are structured the same.
- **What is the organization's culture?**
  - Globally, EI tends to have a highly independent culture. Employees are resilient, if not slightly stubborn. Due to the highly independent nature of the local offices, many offices resist change initiated by headquarters and need extra encouragement in order to change their ways.
  - Local offices have the right to manage much of their business independently, each local office has elements of its own unique culture. Local offices can often operate in different languages and are composed of diverse sets of employees.
- **Why is this change taking place? What are the main objectives of the change?**
  - HQ would like to have a better data management system to aid in its fundraising goals
  - In addition, EI headquarters has not published that it also thinks changing to this CRM will improve operational efficiencies in the local offices.
- **Is there a timeline for when the implementation needs to be complete?**
  - EI HQ was hoping to have all 120 local offices using the system in the next five years

Ecosystems International

Additional Information (if solicited)

- **Has EI ever done anything like this before? What was the result?**
  - Yes, EI attempted to switch to a different CRM system five years ago and failed to finalize the implementation because the software it chose could not handle the amount of data that EI wanted to store, which resulted in extremely long wait times to extract even the simplest pieces of data. After 2 years, headquarters decided to abandon the project. This failed implementation caused the 120 local offices to distrust headquarters and its ability to implement software systems. HQ lost a considerable amount of money in this endeavor and does not want to see this happen again.
- **What is the current skill set of the implementation team?**
  - The headquarters employees on the implementation team are well qualified to conduct software implementations, but they lack manpower due to budget constraints and there is not enough money to hire more members of the implementation team.
- **Who are the end users of the CRM?**
  - The end users will be the local office employees. It can be assumed that most local office employees do not have training in the CRM system, and those that do are young and not in high level positions in their organizations.
- Are there change champions for the project?
  - EI has not yet established change champions, but this is a good consideration.

Ecosystems International

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Additional Information (if solicited)

- **What learnings did the implementation team take from the pilot phase?**
  - **The data varies greatly from local office to local office**: local offices are currently maintaining data in different systems such as Excel, Access, and other localized CRM systems. This makes it difficult to have a uniform approach in converting legacy data to the new CRM system, though as more local offices go onto the system HQ hopes to be able to leverage learnings from prior conversions.
  - **Leadership in some offices is serving as a detriment to the momentum of the implementation**: Leaders at three of the six pilot sites have outwardly mentioned to HQ, their own employees and other office leadership their disdain for the new system.
  - **Training has not been successful:** For many local offices, there is a significant learning curve for employees to use the new system. The uniform training system that the implementation team delivered to all six pilot sites did not adjust for the fact that each office has different operational processes and priorities for which data they track. In addition, there seem to be bugs in the system as it simply does not seem to function as the trainings demonstrate.
  - **It is uncertain whether employees are actually *using* the new system:** After pulling data out of the system, it is clear that many employees are still using their old Excel or Access documents to track data and are not actively entering data into the new CRM.

Ecosystems International

Analysis and Recommendation

- **Leadership Alignment:** survey leaders to see which will be allies to the project and start implementations in those offices; consider having positive leaders talk to other leaders who are not as enthusiastic; communicate with leaders how they will benefit from the system, what their role should be and how they will be awarded
- **Communications**: determine what messaging need to go out to different stakeholders, when it needs to go out and who should deliver it; consider having most messaging in local offices come from local office leadership and cascade down from there; communicate benefits of the new software; manage expectations by communicating that there will be a learning curve and an initial loss of productivity during the transition
- **Incentives:** come up with visible ways to award and recognize stakeholders that move the project forward (e.g., recognition to the office that have the highest level); celebrate milestones and achievements
- **Stakeholder Engagement**: find change champions, who are positive and understand the business, to engage employees and listen for feedback on the implementation; consider that there are different languages and cultures in each office and a “one-size-fits-all” approach may not work
- **Training**: revamp trainings so they address specific business needs of the local offices, which will take a thorough understanding of the current business processes and how they will change

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Will answer each of the questions provided in the prompt • Will recognize that this change will impact all levels of the organization and will consider this in its recommendation
Good Candidate	• Will use the learnings from the implementation pilot phase to shape the recommendation • Will touch on all of the major points mentioned in the recommendation slide
Excellent Candidate	• Will continually draw recommendations back to the end goal and the business goals of headquarters • Will suggest methods for measuring success throughout the implementation and potential contingency plans • Will elaborate on each of the major points mentioned in the recommendation slide and support them with background knowledge and experience • Will assess how the organization is doing in each of the major points on the recommendation slide as a current state and then suggest what the future state should look like

Case #6: Entrepreneurship in Alphabet City

Quantitative level: Easy
Qualitative level: Medium

Deloitte Case Writing Competition Finalist

Behavioral Questions

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Question 1:

- Tell me about a time when you disagreed with a superior. How did you handle it?

Question 2:

- Tell me about a time when you were asked to do something you considered unethical. How did you handle it?

Entrepreneurship in Alphabet City

Prompt #1:

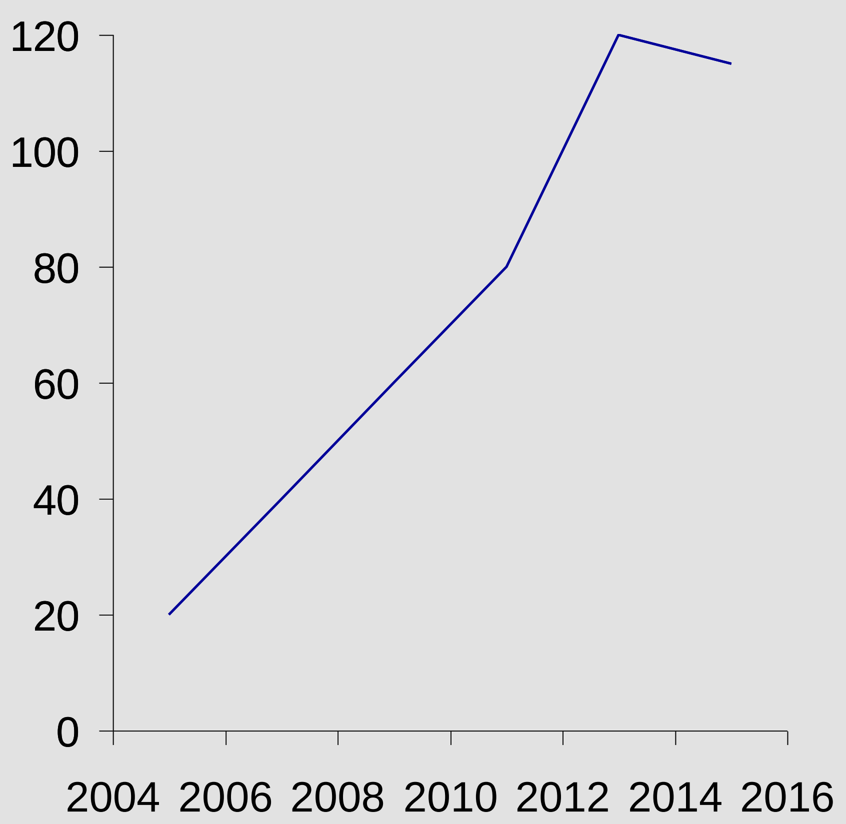
- A client has approached you to identify and roadmap how Alphabet City can become one of the top cities for entrepreneurship in the US. How would you approach this challenge?

Interviewer Guidance:

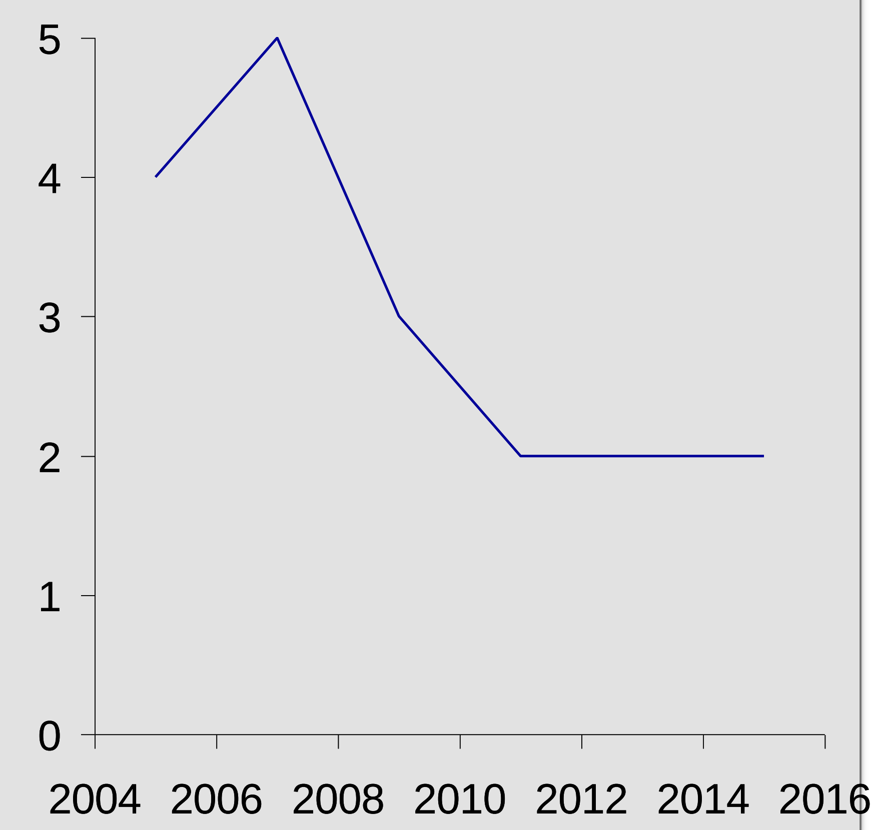
- The interviewee should create a framework, considering the current and historical state of entrepreneurship in Alphabet City, as well as factors that might create and support entrepreneurs, for example:
  - Talent: universities, tech companies, STEM graduates
  - Financial support: angel investors, venture capital firms, bank loans
  - Network and mentor support: incubators/accelerators, experienced entrepreneurs to act as mentors, networking events and organizations (i.e. chambers of commerce)
  - Supportive culture: risk tolerance, collaboration, inclusivity to newcomers
- An interviewee not familiar with entrepreneurship may not be able to come up with much specific detail or jargon (e.g., angel investors, incubators) but should be able to create a framework covering these aspects broadly
- Push the interviewee to create a comprehensive framework before identifying major areas of focus; this should include current state of entrepreneurship
- If interviewee asks for data on current state of entrepreneurship, give them exhibit #1

Exhibit #1: State of Entrepreneurship In Alphabet City

Number of new startups by year



Number of successful exits by year



Interviewer guidance on Exhibit #1

Exhibit #1 Guidance:

- Graph on left illustrates the number of new startups being created each year, showing an upward trend in recent years
- **If needed,** clarify that angel investors and venture capital investors are wealthy individuals
- Graph on right shows a decline in successful exits, followed by a plateau
- If asked, share that successful exits are defined as IPOs or acquisitions where startup investors recouped their investments and made at least a modest return
- The main takeaway from this page is that number of startups being created is **not** the issue, startups are simply not getting to successful exits
- If interviewee starts to crunch numbers, **stop them**
- Prompt the interviewee to return to their framework or do a new brainstorm on root causes of this lack of successful exits

Brainstorm

- Either expanding on their framework, or through a new, structured brainstorming exercise, interviewee should identify root causes of lack of successful exits
- Potential root causes might include:
  - Lack of funding to achieve scale
  - Lack of customers
  - Lack of experienced managerial talent
  - Insufficient access to/visibility for would-be acquirers
- Interviewee should come up with at least two sub-root causes under each branch
- Interviewee should walk through brainstorm and identify their hypothesis of the major cause
- Guide them towards funding as the issue; when asked for data, provide exhibit #2

Exhibit #2: Startup investors in Alphabet City vs benchmarks

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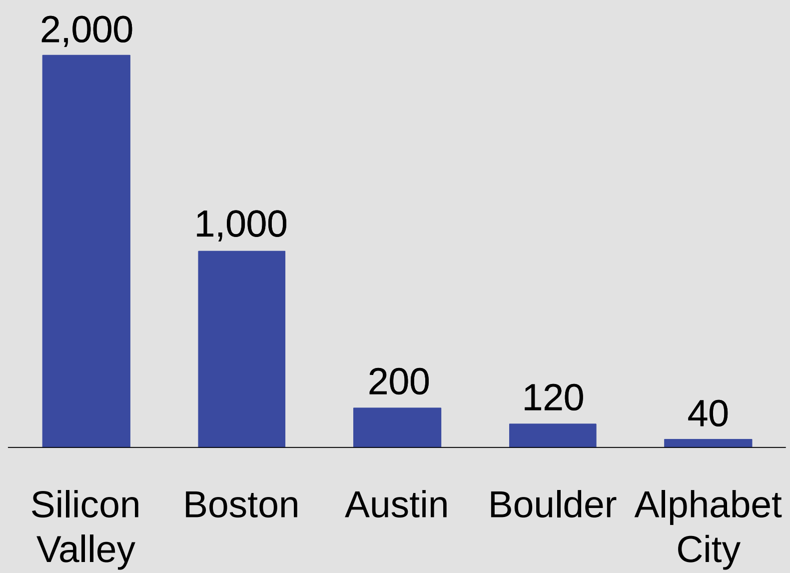
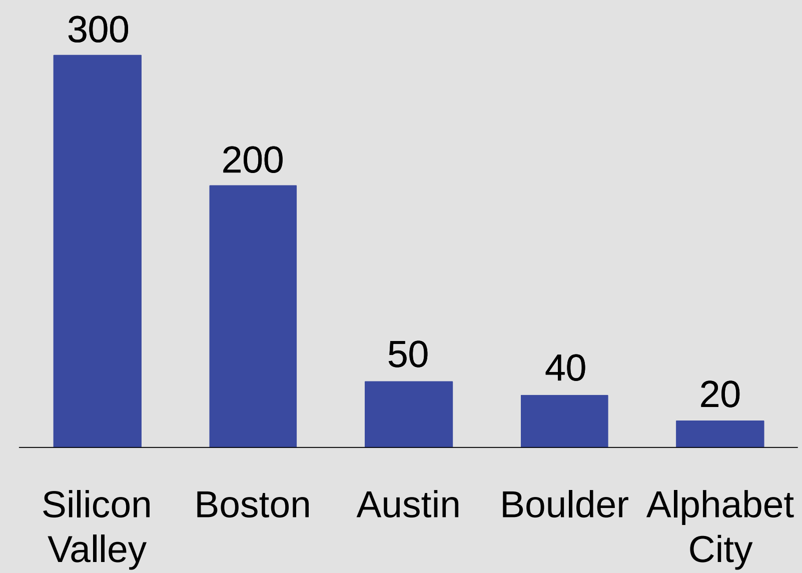
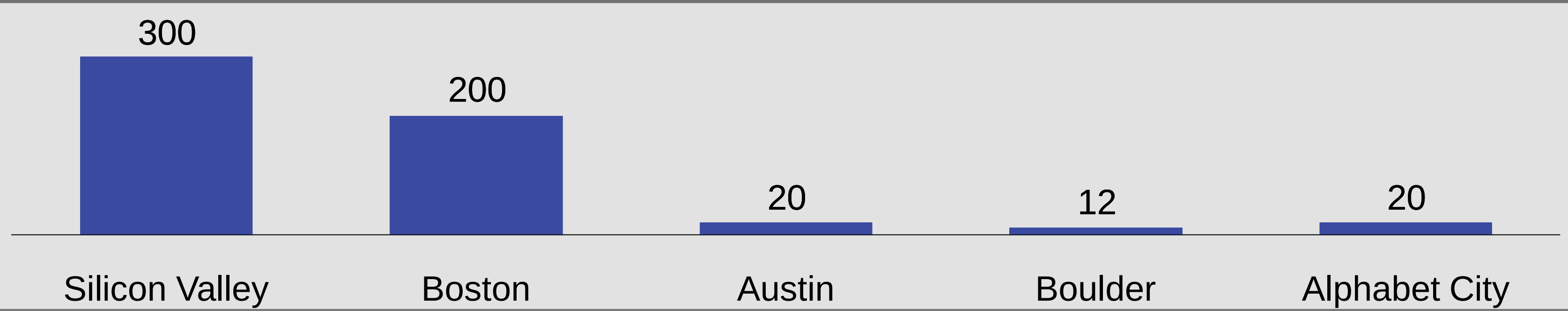
Number of angel investors



Number of venture capital investors



Number of wealthy individuals (in ‘000’s)



Interviewer guidance on Exhibit #2

DUKE THE FUQUA SCHOOL OF BUSINESS

Analysis

Interviewee should talk through exhibit and complete the following analysis:

	Silicon Valley	Boston	Austin	Boulder	Alphabet City
Number of angel investors	2000	1000	200	120	40
Number of VC investors	300	200	50	40	20
Number of wealthy individuals (in thousands)	300	200	20	12	20
Angel investors as % of wealthy population	0.67%	0.50%	1.00%	1.00%	0.20%
VC investors as % of wealthy population	0.10%	0.10%	0.25%	0.33%	0.10%

Main takeaway: Alphabet City has comparable VC investors as a % of wealthy individuals as top entrepreneurship hubs but lacks angel investors

Exhibit #2 Guidance:

- Angel investors are early stage investors, generally the first investor outside of the entrepreneur's immediate friends and family
- VC investors are later stage investors
- Prompt the interviewee to conduct analysis and identify lack of angel investors as root cause in failure of Alphabet City startups reaching successful exits
- Depending on remaining time available, go to next page for brainstorming session or to recommendation guidance

Brainstorm: Increasing angel investors

Prompt #2:

- What can be done to overcome the lack of angel investors in Alphabet City?

Interviewer Guidance:

- Interviewee should conduct a structured brainstorm of ways to increase the number of angel investors
- Ideas might include outreach efforts, creation of angel investing groups to pool risk, education to increase comfort with what might be a new investment class for many of Alphabet City's wealthy individuals
- If interviewee creates a large list, encourage them to consider what might be the most effective
- Interviewee may also consider ways to make current investors give more, which is fine, but not necessary. If they only do this rather than looking at increasing the number, guide them towards increasing the number, as this is more relevant given the provided data

Entrepreneurship in Alphabet City

Recommendation prompt

- We're meeting with the client later today and they would like an update on your recommendation so far. What would you say?

Interviewer Guidance:

- Interviewee should provide recommendation along the lines of:

  "Alphabet City has seen huge growth in startup creation over the last decade. However, startups are not reaching successful exits. This is due to a lack of angel investors to provide the initial funding necessary for startups to scale. To increase the number of angel investors in Alphabet City, conduct outreach to wealthy individuals, create angel investing groups and provide education opportunities to orient investors to the investment class."
- They should also outline risks of the recommended approach and a general overview of next steps.
- Risks might include risk aversion by wealthy individuals in Alphabet City.
- Next steps might include identifying an experienced investor to run the angel group.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Brainstorming sessions are not thorough, structured or little creativity is shown • Struggles with math • Fails to drive case; seems unsure where to go next
Good Candidate	• Meets some but not all criteria for excellent candidate • For example, does analysis easily but doesn't come up with the 'so what'
Excellent Candidate	• Creates thorough and structured framework and brainstorms; shows creativity • Conducts calculations easily and arrives at the 'so what' • Drives case, identifying where they want to focus and asking for needed data

Case #7: Farmer Charlie

Quantitative level: Medium
Qualitative level: Difficult

Behavioral Questions

Question 1: What strength of yours is a weakness under stress?

- Look for capacity and understanding that even our strengths have a dark-side when we are stressed out
- Ask them to give an example of the behavior
- Follow up (if needed) with: how do you protect against that behavior when the pressure is on?
- *One example*: “I am detailed oriented and when the pressure is on, I sometimes find it hard to pull up and re-prioritize on only the most important part of the work”

Question 2: Who is someone you admire and why?

- This is a values question. Probe for the specific actions or values that the person embodies.
- Follow up on the person they admire’s flaws or shortcomings.
- Follow up with, “How do you see a job here enabling those values?”

Farmer Charlie

Prompt #1:

- You have an ambitious first-cousin, Farmer Charlie, who hears you've landed a job at a top consulting firm and he wants some advice from you on his small business. He founded and currently runs a small agriculture business in Mississippi selling grass-fed beef and lamb to high-end restaurants and progressive grocers/butchers (think smaller scale "Whole Foods") in Baton Rouge, New Orleans, and Jackson, Mississippi. His product is one of the only local meat options for high-end restaurants. Revenue growth is strong but he is seeing shrinking profits. He asks you, "What can I be doing to curb against those shrinking profits and take full control of my product and market?"

Interviewer Guidance:

- The interviewee should ask follow up questions on the business. Possible follow up questions include:
  - What is the current business process for Farmer Charlie?
    - Answer: Charlie currently buys (or raises from birth on the farm) lambs and cows. He raises those animals to a healthy age on his family-owned farm. Once a week he then takes those animals to a locally Halal certified processor (i.e. slaughterhouse) with his crew of Charlie's specialty butchers. Once processed, he delivers his product once a week to the high-end restaurant clients.
  - What does competition look like for Farmer Charlie?
    - Answer: Charlie was the first-to-market for local, grass-fed beef and lamb in New Orleans. His major competition is in Colorado or Texas and they aren't as locally embedded. Those players largely go through a larger distributor, whereas Charlie goes direct to consumer, which is an advantage for him.
  - Who are his suppliers?
    - Answer: Charlie buys his animals from small, local farmers. So far, supply of animals has not been an issue and it's often cheaper to buy them from the farmers than go through the birthing process, where yield on newborn lambs is very low (they often get sick and only 2/3 lambs born makes it to a mature age and once the ewe has baby lambs, she is no longer able to be sold for high quality meat). His business heavily relies on the processor (slaughterhouse) because the one he currently uses is the only one certified.
  - It sounds like profit is a primary goal. Are there others?
    - Answer: Charlie, as an early entrepreneur, is also very concerned with control over his product. His reputation is at stake and he needs to ensure that his clients are given the kind of product they expect (good quality, correct cuts of meat, etc.)

The interviewee should draw out a framework for considerations.

Farmer Charlie

Prompt #2:

- Processing costs have gone up much faster than Charlie’s revenue. Charlie’s processor, Buzzkill Butcher, has realized that Charlie needs a certified Halal processing facility that will allow Charlie’s specialty butchers access to the facility. and has “put the squeeze” on Charlie for the weekly rates. What could Charlie do?

Interviewer Guidance:

- The interviewee should brainstorm options, which may include (but are not limited to) the ones below. Ask a follow up of concerns or limitations to each of the strategies (sub-bullets as suggestions below).
  - Find a different processor with the same capabilities
    - Are there different Halal processors in Mississippi/Louisiana?
    - Will other processors let Charlie bring his staff of specialty butchers into the facility?
  - Leverage growing scale to negotiate better deal
    - Depends on how many customers the processor has and how much he needs Charlie. It’s the American Southeast, so the processor may be pretty diversified with various ranch/farmers’ and also sporting game processing.
  - Purchase the processor
    - Is he interested in selling his business?
    - How might we finance the deal / what is Charlie’s access to capital?
  - Purchase a different processing facility
    - Are there processing facilities available?
    - Would Charlie be able to get a facility certified?
    - Is processing/running a processor a capability of Charlie’s?

Farmer Charlie

Prompt #3:

- Charlie has done a bit of initial research on getting into the processing business. Buzzkill Butchers is the only certified Halal facility that will currently allow Charlie's team to specialty butcher. Charlie has a team of specialty butchers that he employs and who are knowledgeable of the product his high-end restaurant chefs are demanding. Mr. Buzzkill, true to his name, is not interested in selling his facility to Charlie. There are a few uncertified facilities for sale that, with a little renovation, could be certified. He would like to know what you think.

Interviewer Guidance:

- Give the interviewee the prospectuses (Exhibit #1)
- Assume each slaughterhouse is a similar distance from the farm and to the restaurants (will have no impact on transportation costs, though it could be an additional consideration in the conclusion)
- If the interviewee asks about funding, they can assume that Charlie has good access to capital through a variety of Dept. of Agriculture grants for small farmers and investors.
- If interviewee asks, they can assume that 2 weeks out of the year Charlie plans on closing the slaughterhouse for semi-annual cleaning. Thus, they can assume 50 weeks per year.
- No need to calculate DCF – just from a cost and opportunity standpoint, what should Charlie consider?
- Can assume relatively stable market for the next 5-10 years

Exhibit #1: Processor Prospectus

All Figures in $K

Acquisition Costs	Stunner Brothers	Springhill Slaughterhouse	Dedoe Processing
Description	Family owned for 20 years. The Stunner Brothers want to retire and the family has no interest in running the facility. Facility is a bit older and needs a decent amount of renovation work. Mainly used for game processing.	10-year old facility that is privately owned by an individual looking to relocate to a different part of the state to take care of ailing parents. Has been used for commercial processing before.	5-yr old facility with least amount of renovation required. Owned by a local telecom businessman who started it to support he and his buddy’s hunting habit on the weekends. Capable of commercial work.
Purchase Cost	$ 65.00	$ 82.00	$ 94.00
Estimated Renovation Cost	$ 48.00	$ 40.00	$ 36.00
Certification Cost	$ 10.00	$ 10.00	$ 10.00
Total Upfront Investment Required			

Exhibit #1: Processor Prospectus

INTERVIEWER COPY

All Figures in $K

Acquisition Costs	Stunner Brothers	Springhill Slaughterhouse	Dedoe Processing
Description	Family owned for 20 years. The Stunner Brothers want to retire and the family has no interest in running the facility. Facility is a bit older and needs a decent amount of renovation work. Mainly used for game processing.	10-year old facility that is privately owned by an individual looking to relocate to a different part of the state to take care of ailing parents. Has been used for commercial processing before.	5-yr old facility with least amount of renovation required. Owned by a local telecom businessman who started it to support he and his buddy's hunting habit on the weekends. Capable of commercial work.
Purchase Cost	$ 65.00	$ 82.00	$ 94.00
Estimated Renovation Cost	$ 48.00	$ 40.00	$ 36.00
Certification Cost	$ 10.00	$ 10.00	$ 10.00
Total Upfront Investment Required	*$ 123.00*	*$ 132.00*	*$ 140.00*

Exhibit #2: Processor Prospectus

All Figures in $K

Operational Prospectus	Stunner Brothers	Springhill Slaughterhouse	Dedoe Processing
Expected revenue from processing other meats/game (annually)	$ 149	$ 187	$ 203
Processing costs (per week)	$ 1.8	$ 2.3	$ 2.4
SG&A	$ 60	$ 70	$ 80
Taxes @ 35%			
Total Expected Profit			

Exhibit #2: Processor Prospectus

INTERVIEWER COPY

All Figures in $K

Operational Prospectus	Stunner Brothers	Springhill Slaughterhouse	Dedoe Processing
Expected revenue from processing other meats/game (annually)	$ 149	$ 187	$ 203
Processing costs (per week)	$ 1.8	$ 2.3	$ 2.4
SG&A	$ 60	$ 70	$ 80
Taxes @ 35%	*$ 0*	*$ 0.7*	*$ 1.05*
Total Expected Profit	*$ -1.0*	*$ 1.3*	*$ 1.95*

Farmer Charlie

Recommendation

- What should Charlie should do and what are the financial implications of your recommendation? And what else should your cousin consider?

Interviewer Guidance:

- There is no clear "correct" choice in this case. The potential profit is significantly small for either Dedoe or Springhill. Stunner is net negative and the worst choice.
- *However,* the interviewee should link the processing back to the overall operation and recognize that it replaces the annual processing cost of $135,000 with a net positive $1,300 - $2,000, boosting overall profit margins to nearly 20%.
- Dedoe has a higher payoff, but also a higher price. Assuming revenue and costs remain pretty stable, after ~12 years the incrementally higher payoff is worth the higher price. Interviewee should recognize that Dedoe may make sense for Charlie if he has a longer-term vision for the business, but he breaks even on Springhill faster. As a first-time entrepreneur, he is likely interested in breaking even earlier.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Few math mistakes. Asks clarifying questions on the business structure, but gets caught up in the details and doesn't brainstorm potential costs and actions very well.
Good Candidate	Little to no math errors. Good at brainstorming potential costs and actions, but loses sight of the overall goal of total profit margin for the business.
Excellent Candidate	No math errors. Quickly recognizes useful data, stays focused on overall goals of profitability and control. Ask questions to clarify business value chain. Good brainstorming of potential cost drivers and actions.

Case #8
Mock Case: GreenCo

Deloitte Consulting LLP

Carbon Reduction Strategy & Goal Setting

Business Situation

Our client, GreenCo, is a $10B global manufacturer and retailer of high end outdoor apparel, with several well known brands. The company has big growth aspirations: through organic and inorganic growth, GreenCo is hoping to grow from $10B in revenue in FY11 to $15B by FY15. At the same time, the CEO has recognized their customers' and investors' interest in being an environmentally sustainable company and has asked their Director of Sustainability to develop goals for absolute reduction in carbon emissions despite the growth they have planned (as compared to a "Business As Usual" (BAU) scenario). The CEO expects this to support the company's overall sustainability vision, help ensure protection of their brands' value, and bolster the company's market capitalization.

Problem Statement

What specifically has the company engaged Deloitte to accomplish?

Deloitte has been asked to help with understanding what the "Business as Usual" scenario would look like in terms of energy consumption, energy spend, and carbon emissions as the company grows to $15B. This analysis includes modeling different options for reducing carbon emissions and energy spend, and setting goals for carbon emissions reductions. Specifically, there are five questions to answer:

1. Without putting carbon reduction goals in place, how much carbon will the company emit and how much will it spend on energy in 2015 (i.e., what is the Business as Usual scenario)?
2. What is the NPV of two potential project groupings that the company could implement? Discount rate of 10%, Assume benefits and costs are immediately realized.
3. Relative to the BAU scenario, what are the potential energy cost savings if the company chose to adopt a goal of a) 0% absolute increase in emissions or, b) 5% decrease in emissions? Which of the two project groupings should GreenCo pursue to achieve a goal of 5% decrease in emissions?
4. What other factors should the company consider when setting goals and planning for the implementation?

Data Sheet

Table 1 – Company FY11 Data

Metric	FY11	
Company Revenue	$10 billion	
Locations	Offices: Retail: Manuf. & Dist.: Total:	20 600 50 670
Energy Consumption (millions kWh)	Offices: Retail: Manuf. & Dist.: Total:	0.5 4.0 2.0 6.5
Energy Spend	$65 million	
Carbon Emissions	300,000 metric tons of CO_2-e**	

Table 2 – Company Growth Data

Metric	FY15 (Forecast)	
Company Revenue	$15 billion	
Locations	Offices: Retail: Manuf. & Dist.: Total:	28 900 60 988

NPV Calculation $$\mathrm{NPV}(i) = \sum_{t=1}^{N} \frac{R_t}{(1+i)^t}$$

**** CO_2-e is the unit measurement for carbon emissions; one can assume that carbon emissions are directly correlated to energy consumption**

**** Assume discount rate of 10%**

Table 3 - Potential Energy Efficiency Projects

Project Groupings	Energy Efficiency Project(s)	CapEx	Annual Savings	CO_2-e Reductions	Lifetime
Grouping 1 – Offices	Lighting & HVAC Retrofits at all Offices	$4,000,000	$1,600,000	140,000	5 Years
Grouping 2 – Manufacturing & Distribution	Solar Installations & other controls	$41,500,000	$4,400,000	140,000	Perpetuity

Answer to questions – one sheet for each question

1. Without putting carbon reduction goals in place, how much carbon will the company emit and how much will it spend on energy in 2015 (i.e., what is the Business as Usual scenario)? (items in red are the answers)

Metric	FY11	FY15	Rationale
Company Revenue	$10 billion	$15 billion	
Locations	Offices: 20 Retail: 600 Manufacturing & Dist.: 50 Total: 670	Offices:28 Retail: 900 Manuf. & Dist.: 60 Total: 988	
Energy Consumption	Offices: 0.5 million kWh Retail: 4.0 million kWh Manuf. & Dist.: 2.0 million kWh Total: 6.5 million kWh	Offices: 0.7 million kWh Retail: 6.0 million kWh Manuf. & Dist.: 2.4 million kWh Total: 9.1 million kWh	The ratio of number of offices to consumption from offices can be used to extrapolate FY15 consumption based on a higher number of offices. Same logic applies for other location types
Energy Spend	$65 million	$91 million	If 6.5 million kWh cost $65 million in FY11, one could project that, if energy costs stay the same, the FY15 energy consumption will translate to $91 million in energy spend
Carbon Emissions	300,000 metric tons of CO_2-e	420,000 metric tons of CO_2-e	Ratio of FY11 emissions to FY11 energy consumption can be used to estimate FY15 emissions based on FY15 consumption

Note: a candidate may ask whether energy prices will stay the same. This is a good question and they should make assumptions. For the illustration above, we assumed that energy will stay constant at $0.10 per kWh. A candidate may wish to assume some increase in energy prices, which is perfectly ok (but would make the analysis more complex).

Answer to questions – one sheet for each question

2. What is the NPV of two potential project groupings that the company could implement? Discount rate of 10% Assume benefits and costs are immediately realized.

Note to interviewer: Ask the candidate for the approach that they would take. Do not ask them to do the NPV calculation, it will take too long for the allotted time. Discount rate is 10% - if asked. Investment and payback both happen in FY11.

- Candidate should calculate the NPV of each of the two scenarios that the company could implement. Given the NPV (and other considerations), the candidate should make a recommendation on which grouping the Director of Sustainability should implement.

- <u>Grouping 1:</u>

  Using the NPV formula,

  NPV = 1.6 M + 1.6M/1.1 + 1.6M/1.21 + 1.6M/1.331 + 1.6M/1.46 less upfront costs (FY11-FY15)
  Just have the candidate set up the formula. Once they have the concept and formula correct, provide the information that the PV of the cash flows from cost savings is $6.7 MM
  Candidate can then subtract the upfront costs to get NPV: $6.7 MM - $4 M = **$2.7 MM**

- <u>Grouping 2</u>

  Using the perpetuity formula, $\frac{C}{i}$ NPV = (4,400,000)/.1 – 41.5M = 44 M – 41.5M = **$2.5 M**

- Based on this, Grouping 1 has the best NPV.

- Candidates may also ask about upfront capital constraints. Given unlimited capital, a candidate could argue that the company should implement both options since they are all positive NPV.
- Candidates should also consider the lifetime of these investments; different companies may want payback within a shorter time horizon even though the project will last in perpetuity.

Answer to questions – one sheet for each question

3. Relative to the BAU scenario, what are the potential energy cost savings if the company chose to adopt a goal of a) 0% absolute increase in emissions or, b) 5% decrease in emissions? Which of the two project groupings should GreenCo pursue to achieve a goal of 5% decrease in emissions?

- Using the projected energy spend in 2015 under the business as usual scenario from question 1, the candidate should then calculate the potential energy spend if the company were to adopt one of two goals – 0% reduction in absolute emissions from 2011and 5% reduction.
- Assuming emissions are directly correlated to energy consumption (as noted in the data tables) and the cost of energy stays constant:
  - A **0% increase in absolute emissions** would equate to a 0% change in energy consumption. Energy spend would stay at $65 million, resulting in a **savings of $26 million** ($91 million - $65 million).
  - A **5% reduction in emissions**, following the same logic, would equate to a 5% reduction in energy consumption (and thus spend). Spend would be reduced by 5% to $61.75 million ($65M * 95%) and thus the savings from the Business as Usual number of $91 million is **$29.25 million**
- Critical points for the candidate to hit on include the business as usual costs and the potential costs at each level of reductions.
- To get at the answer, the candidate will:
  - Convert historical and future energy consumption into carbon emissions
  - Convert future consumption into projected spend
  - Convert future carbon emissions amounts at each of the three goals back into energy consumption, and then into energy spend at each of the three goal levels
  - Subtract energy spend at each of the three goal levels from the spend in the business as usual scenario
- Being methodical will be critical to this question; there are several variables that must be addressed in logical order

Answer to questions – one sheet for each question

3. (continued) Which of the two project groupings should GreenCo pursue to achieve a goal of 5% decrease in emissions?

- BAU carbon emissions are forecasted to be 420,000 MT CO_2 –e
- A 5% reduction target would require a 135,000 MT reduction (420,000 MT – 285,000 MT), which could be accomplished by both project groupings (140,000 MT each).
- Since both Grouping 1 and 2 offer the same carbon emissions savings potential, the candidate should choose the one with the better NPV, which is Grouping 1.

In addition to getting the NPV calculation right and getting to a recommended goal, a great answer would include:

- Balancing NPV with the non-financial benefits (i.e., carbon emissions) to ensure the goal makes sense from a financial and non-financial (e.g., stakeholder expectations) perspective
- Benchmarking these goals against those of their peers and competitors in the marketplace to understand whether these goals will help meet stakeholder expectations

Answer to questions – one sheet for each question

4. What other factors should the company consider when setting goals and planning for the implementation?

- Key points may include
  - Additional Financial Considerations
    - Length of availability of tax credits & incentives
    - Availability of capital (Grouping 3 requires a very large upfront investment)
  - Organizational
    - Internal appetite for adoption of these goals
    - External stakeholder expectations
    - Management commitment
    - Alignment with CEO's vision
  - Operational
    - Creation of an implementation roadmap
    - Measurement & verification of results (i.e., cost savings, carbon emissions reductions)

Wrap up

Wrap Up

- Deloitte is considered a strategic advisor on sustainability issues
- We differentiate ourselves from our competition by grounding the conversation in business terms, including NPV and other drivers of financial and strategic value
- In this case, Deloitte was brought in to help "sell" the cause to the organization, and having the financial rigor behind the carbon emissions goals was critical to ensure adoption among the executives
- The Deloitte team assisted the client by:
    - Creating a business as usual model based on growth plans and historical energy consumption and spend
    - Benchmarking what other companies (and peers) are doing in this space to demonstrate sustainability leadership)
    - Modeling the costs and benefits of different goal scenarios
    - Developing an implementation roadmap, including potential challenges and roadblocks for executive level discussion
    - Supporting communication of the goals to the rest of the organization
- Deloitte is viewed as a trusted advisor to the client and is now working on other areas related to the company's sustainability strategy, including water use risk assessments and waste footprints

Data Sheet

Table 1 – Company FY11 Data

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** Assume discount rate of 10%

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Case #9: Koot-Ease

Quantitative level: Medium
Qualitative level: Difficult

Behavioral Questions

Question 1:
• Tell me about a time when you were challenged? • Interviewer should clarify the situation, and pressure test how the candidate reacted and what the candidate learned.

Question 2:
• What are your first, second, and third biggest weaknesses? • This behavioral question is meant to filter standard interviewee responses and dig deeper into the candidates mindfulness and self awareness.

Koot-Ease

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #1:

- Your company is Miley-Sirus, a pharmaceutical research and manufacturing organization that owns a majority of the Koot market. Koot is an orphan disease that affects the portion of the brain that controls balance, making games such as four square, handball, and tether ball difficult. Currently, the company's leading product, Koot-Ease, is experiencing tremendous growth in core markets, and the company is looking to grow. What should Miley-Sirus do?

Interviewer Guidance:

- Candidates should ask for information regarding:
  - Which core markets? How much of their revenue do the core markets make up? (75%)
  - How much market share does the company own? (65%) How much of that share is Koot-Ease? (50%)
  - Are there any other products the company manufactures? (Yes, but focus on Koot-Ease)
- Candidates should come up with ideas for growth, such as:
  - Expand into new markets directly, by partnering, by buying
  - Expand in current markets by acquiring a company (common in Pharma)
  - Invest further into R&D to develop an even better drug
  - Look into other diseases the company has the capacity to tackle
- Guide the candidate towards current Koot-Ease market share by core market (Ex 1)

Exhibit 1: Koot-Ease Share by Core Koot Market

	USA	Germany	Argentina	China	India
Market Share (Patients)	55%	60%	50%	40%	30%
Market Share (Annual IU)	60%	60%	40%	45%	20%
Market Share (Revenue)	50%	50%	45%	40%	35%
Total Market Revenue	$5B	$3B	$2B	$3B	$1B

IU (International Unit): in pharmacology, quantity of a substance, such as a vitamin, hormone, or toxin, that produces a specified effect when tested according to an internationally accepted biological procedure.

Interviewer guidance on Exhibit #1

DUKE THE FUQUA SCHOOL OF BUSINESS

Exhibit #1 Guidance:

- **Exhibit 1 shows Koot-Ease market share for its 5 core markets. Given this information which markets should Miley-Sirus focus on?**
- For patient share, the candidate should inquire about market size. Does a small amount of patient share in a large market do the company any good?
- For IU share, this is the amount of product actually used in the country. The candidate should differentiate patient share versus IU share, and how having less patient share but more IU share means your patients are more compliant. This could mean brand loyalty.
- For revenue share, if the company has more patient share than revenue share, it could mean the company is not competitively priced, or is under-pricing. Questions around this are important.

Analysis:

- There are 3 different types of market share given here. The candidate should attempt to calculate the company's revenue for each market, and ask for information regarding how many patients and how many IU's are in each market.
- For this case, the company is interested in obtaining more revenue share.

	USA	GER	ARG	CHI	IND
Market Share (Revenue)	50%	50%	45%	40%	35%
Total Market Revenue	$5B	$3B	$2B	$3B	$1B
Mily-Sirus Revenue	**$2.5B**	**$1.5B**	**$0.9B**	**$1.2B**	**$0.35B**

- Given market share and revenue in India is small, with such a large population, the candidate should focus there.

Koot-Ease

Prompt #2:

- Mily-Sirus has now assessed its core markets and believes it could further grow in India. However, a new revolutionary drug developed by Bynes & Lohan, called Skooter, has just passed Phase 3 trials. Skooter attacks the Koot virus through an innovative neuropathway and produces no antibodies nor side effects. The drug is administered 2/month (compared to Koot-Ease 2/week), and has no co-morbidities for older patients. Skooter is scheduled to go on sale in all markets in 2017. Mily-Sirus wants to forecast Skooter's potential revenue to 2020. What should it do?

Interviewer Guidance:

- The candidate should give ideas on the information needed to forecast potential revenue:
  - What is Skooter's forecasted market share from 2017-2020?
  - How many patients are in the market from 2017-2020, and how many will Skooter win?
  - How much Skooter will each patient use on an annual basis?
  - What is the price of Skooter forecasted to be?
- A strong candidate will also ask questions regarding:
  - What is the likelihood of Skooter making it to market? Would we then assume a risk-adjusted forecast?
  - How important is brand loyalty in the Koot market?
  - Does Bynes & Lohan have experience in launching a Koot treatment?

Exhibit 2: Skooter Forecast for Koot-Ease core markets

	2017	2018	2019	2020
Market Share (patients)	20%	25%	30%	40%
# of Patients in the market	100K	100K	120K	130K
Annual IU usage per patient	5,000	5,000	5,000	5,000
Price of Skooter per IU	$1.00	$0.95	$0.90	$0.85

IU (International Unit): in pharmacology, quantity of a substance, such as a vitamin, hormone, or toxin, that produces a specified effect when tested according to an internationally accepted biological procedure.

Interviewer guidance on Exhibit #2

	2017	2018	2019	2020
Market Share (patients)	20%	25%	30%	40%
# of Patients in the market	100K	100K	120K	130K
# of Skooter Patients	**20K**	**25K**	**36K**	**52K**
Annual IU usage per patient	5,000	5,000	5,000	5,000
Annual IU usage of Skooter	**100M**	**125M**	**180M**	**$260M**
Price of Koot-Ease per IU	$1.00	$0.95	$0.90	$0.85
Total Skooter Revenue	**$100M**	**$112.5M**	**$162M**	**$221M**

Koot-Ease

Recommendation

- Given what you now know about Koot-Ease's current and Skooter's forecasted market share, do you believe Mily-Sirus should begin looking for ways to expand, and how?

Interviewer Guidance:

- When comparing the two drugs in the core markets, the candidate should notice that the overall revenue of the Koot market is decreasing (by 2018, 40% of the Koot patient market will account for only ~$220M of revenue; Compared to 2015 Koot-Ease which is in the billions).
- Given these forecasts, the candidate should recommend that Miley-Sirus look for ways to mitigate the impending disruption known as Skooter.
- Strong candidates will recommend:
  - Purchasing Bynes & Lohan, or forming a partnership, given their experience in the market
  - Developing a marketing plan that highlights the benefits of Koot-Ease treatment pathway, as compared Skooter's unknown innovation
  - Look towards undeveloped markets where Koot may be more prevalent

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Will be able to calculate most quantitative aspects of the case, but be driven to the exhibits and overall recommendation
Good Candidate	Will be able to calculate most quantitative aspects of the case, and will drive towards the exhibits given the information needed to solve the case
Excellent Candidate	Will be able to calculate all quantitative aspects of the case, and will drive towards the exhibits and overall recommendation by asking insightful and second-level questions

Case #10: Layup Lines Design LLC

Quantitative level: Easy
Qualitative level: Medium

Behavioral Questions

Question 1:
• Describe a time you were on a team that failed • STAR story, emphasize what learned and how applied in future.

Question 2:
• Describe a time you convinced a peer or manager to take action • STAR story, heavy focus on actions taken to convince. The actions more important than the context.

Layup Line Designs LLC

Prompt #1:

- Three friends, Laura, Isabel, and Dom, are creating a t-shirt company, Layup Line Designs, LLC in Nashville, TN. They are annoyed with the lack of “cool” Nashville based t-shirts in the market, and have decided to take matters into their own hands. They have hired us to think through key considerations in starting this company.

Interviewer Guidance:

- If asked the following background information should be given: want to stay local, have no experience in small business, are planning to both design and screen print but will source the actual t-shirt, Nashville MSA is 1.8M, 13M tourists visit/year
- Key considerations that should be included: profit analysis, competitor landscape, industry trends, target customer

Layup Line Designs LLC

Prompt #2:

- Laura, Izzy, and Dom are especially concerned with costs as they do not want to finance Layup Line Designs using any loans. Noting that Layup Line Designs will both design and print t-shirts, what are the key cost considerations for this company?

Interviewer Guidance:

- Break down into fixed costs and variable costs.
- Fixed costs: salary, equipment for printing, marketing
- Variable costs: ink, t-shirts, screens

Exhibit #1

Variable costs

	Dollars	Purchase Qty	Unit costs (per shirt)
ink	$6.42	8 oz bottle	$0.13
shirt	$5.00	per shirt	$5.00
screen	$30.00	per screen	$0.60
transparency	$2.00	per design	$0.04
emulsion	$15.00	per bottle	$0.03
total variable costs/shirt			$5.80
Revenues			
avg retail price per shirt			$25.80
Operating margin			$20.00

Fixed costs (annual)

salary	0
website/mkting	$10,000
other (rents, etc)	0
total fixed costs	$10,000

Interviewer guidance on Exhibit 1

Exhibit 1 Prompt #3:

- Currently, Laura, Izzy, and Dom all have jobs outside of Layup Lines Design LLC. Based on the P&L, if they did not require any salary, and could utilize a repurposed basement for free, how many t-shirts would they need to sell to breakeven? How many shirts/week?

Analysis:

- Breakeven volume is
  - 10,000/20 (total fixed costs/unit profit) = 500
- Fixed costs = $10,000
- Unit profit = $20.00
- Weekly volume = 500/50 = 10
- Interviewee should organize equation and talk through inputs and assumptions

Layup Line Designs LLC

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Prompt #4:

- Based on your calculations, does this seem feasible? What else would you want to consider

Interviewer Guidance:

- 10 shirts/week seems possible
- Should return to original framework, could mention: competitive landscape, space in basement, industry trends, population of Nashville, tourism to Nashville
- Want to have 2-3 strong reasons to support whether or not feasible

Exhibit #2

Variable costs

	Dollars	Purchase Qty	Unit costs (per shirt)
ink	$6.42	8 oz bottle	$0.13
shirt	$5.00	per shirt	$5.00
screen	$30.00	per screen	$0.60
transparency	$2.00	per design	$0.04
emulsion	$15.00	per bottle	$0.03
total variable costs/shirt			$5.80

Revenues

avg retail price per shirt	$25.80

Operating margin	$20.00

Fixed costs (annual)

salary	?
website/mkting	$10,000
other (rents, etc)	0
total fixed costs	?

Interviewer guidance on Exhibit 2

Exhibit 2 Prompt #5:

- Laura, Izzy, and Dom are hoping that Layup Line Designs could grow into a business large enough so that they could quit their respective day jobs. If they each want to earn minimally 50,000/year, how many t-shirts would they need to sell per year? Per week?

Analysis:

- Breakeven volume is 8,000 (total fixed costs/unit profit);
  - 160,000/20 = 8,000
- Fixed costs = $160,000 (50,000*3 for salary + 10,000 in mkt costs)
- Unit profit = $20.00
- Weekly volume = 8000/50 = 160
- Interviewee should organize equation and talk through inputs and assumptions

Layup Line Designs LLC

DUKE THE FUQUA SCHOOL OF BUSINESS

Recommendation

- Based on the analyses performed and insights derived thus far, what would you recommend to Laura, Izzy, and Dom in terms of starting up Layup Line Designs?

Interviewer Guidance:

- Could easily breakeven if do not want to quit current jobs. If want to quit normal jobs, volume increases dramatically. Most likely infeasible as would need to hire more people, would need to rent more space, would require a large portion of the population to buy a t-shirt.
- Strong rec will return to framework to illustrate why infeasible

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Profit analysis framework, does not bring in industry trends, or competitive analysis; completes math slowly with minimal mistakes may require reminder for breakeven equation, brainstorms many ideas but does not offer any structure
Good Candidate	Offers complete framework, brainstorms are structured and MECE, recognizes and correctly applies breakeven formula, uses framework to support recommendations and math conclusions
Excellent Candidate	Offers complete framework, creative and structured brainstorm that is specific to t-shirts, recommendations and math conclusions supported by logical, sound business reasoning, breakeven formula applied correctly; math is organized and quickly performed

Case #11: Mission Eternity

Quantitative level: Medium
Qualitative level: Difficult

Deloitte Case Writing Competition Winner

Behavioral Questions

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Question 1:

- If your life was turned into a movie, what would be the title?
  - Tests the candidate's ability to think on their feet and be creative.
  - What's important is a quick but thoughtful response and that the candidate is not thrown off by an out-of-the-box question.

Question 2:

- Provide an example of when you had to change direction on a project and how you handled it.

Mission Eternity

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #1:

- Your client, NASA, has recently learned of a giant asteroid heading towards the Earth. Scientists at NASA have determined that there is a 10 percent probability that this asteroid makes landfall. If it hits, the asteroid will create a large dust storm blocking out sunlight and preventing photosynthesis in plants. This will ultimately destroy the rest of the earth's ecosystem for the next 100 years. NASA needs help determining whether they should launch the Eternity Mission, a space exploration mission to find a suitable planet for the human population to live on in the event of the catastrophic asteroid impact.

Interviewer Guidance:

Additional information to be provided to the candidate if requested:

- NASA's goal is to safely evacuate at least 20% of the world's population in the event of impact.
- The Asteroid would hit earth in 25 years. NASA estimates it will require 15 years to build enough space vehicles and safely evacuate 20% of the world's population. Therefore, Mission Eternity needs to be completed within 10 years.

Mission Eternity

DUKE THE FUQUA SCHOOL OF BUSINESS

Interviewer Guidance:

(*continued)*

- Assume NASA has had major breakthroughs in space travel and spacecraft can now travel at the speed of light.
- Other international space agencies are looking to NASA to make a decision. Their budgets are unavailable to aid this mission.
- NASA has already weighed other options to salvage the earth's population, such as hitting the asteroid to break it into smaller pieces, and determined that is not possible. Additionally, other efforts to live underground are being researched separately.
- Cost of the Eternity Mission will vary by planet(s) selected for exploration, we do not have specific figures.
- Assume NASA has figured out a way to use therapeutic hypothermia hibernation to enable humans to travel very long distance in space.

Mission Eternity

Interviewer Guidance: Potential Framework

- Budget Issues
  - Cost of spacecraft
  - Cost of fuel – renewable technology, fuel
  - Astronauts – salary, life insurance, family support, training
  - Staff on ground
  - Upkeep of tracking devices
  - Cost of test runs
  - Outside fundraising possible: Business, nonprofit, donation support
- Timing Issues
  - Distance to potential planet
  - Duration of the project affects cost
  - Timing of receiving planet data to make plans prior to asteroid impact
- Public Relations Issues/Liability
  - Public response to expense
  - Public reaction to disaster if an accident with the mission occurs
  - Loss of credibility for future missions and existing projects if there is a failure
- Available Planet Data
  - Accuracy of currently available data regarding potential planets
  - Determining which metrics to prioritize

Mission Eternity

Prompt #2:

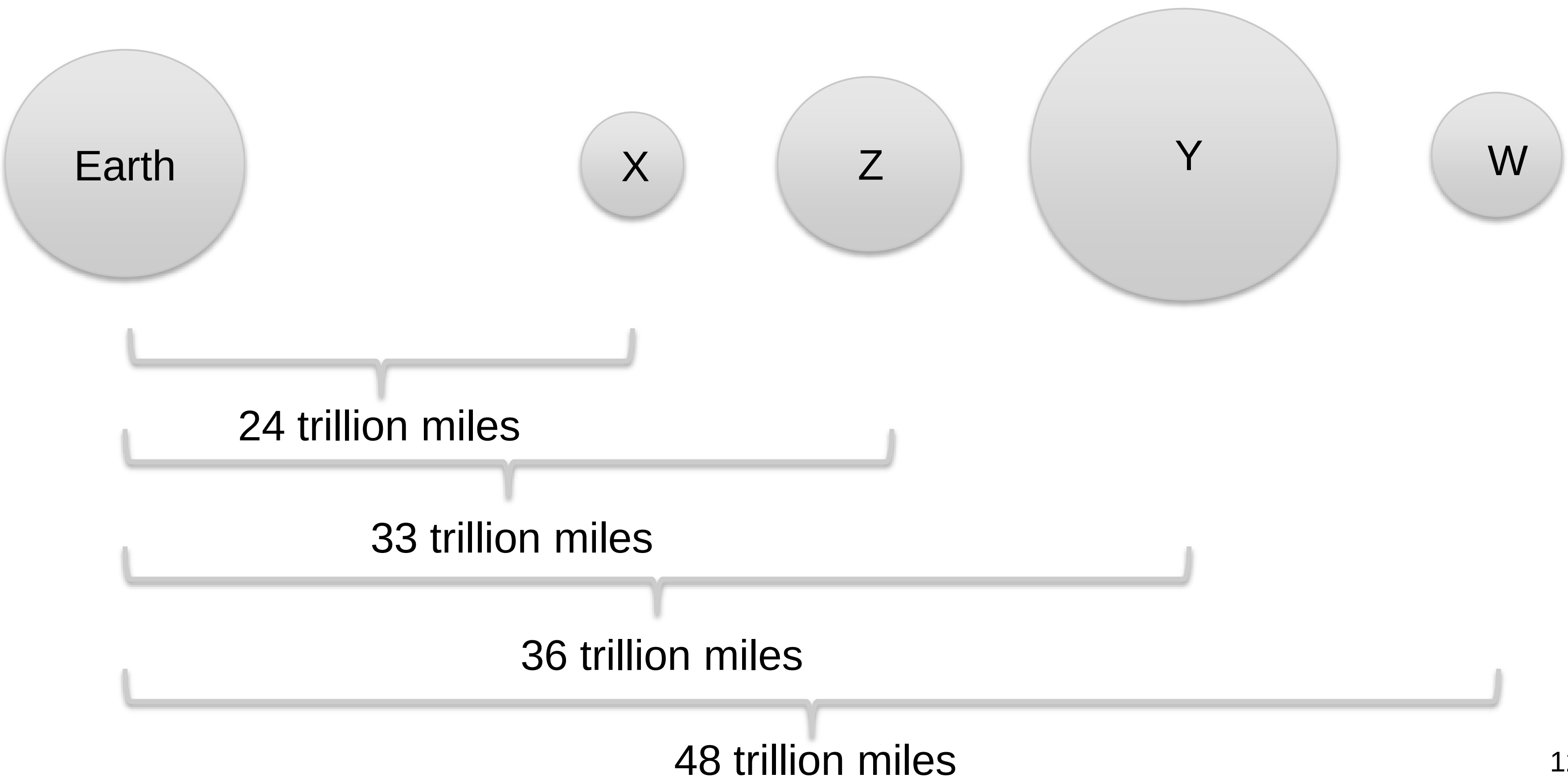
If not already provided to the candidate, inform them that the asteroid is set to hit earth in 25 years. At least 15 years is needed to build enough space vehicles and to safely evacuate 20% of the world's population. Therefore, Mission Eternity can only take 10 years from start to finish.

Additionally, NASA's Eternity spacecraft can travel at the speed of light.

The closest four potentially habitable planets are Planet W, Planet X, Planet Y, and Planet Z. Once the Eternity spacecraft arrives to a planet, it will take on average 18 earth months to collect data sufficient to determine if the planet can support human life. NASA has also discovered a way to send signals carrying the data back to earth faster than the speed of light. It will take three months per light year in distance for signals to reach earth. [Assume one month is 30 days.]

Exhibit #1

Note: A light-year is how astronomers measure distance in space. It is defined by how far a beam of light travels in one earth year – a distance of six trillion miles.



Interviewer Guidance on Exhibit #1

Exhibit #1 Guidance/Prompt #1 Analysis

- The candidate should realize that distance is related to timing and will impact the decision to explore certain planets within the allotted 10 year timeframe. The candidate should convert distances in Exhibit 1 into light years and add the additional time for data collection and receipt of the data signal to determine the total time it will take to make a decision about whether a planet is suitable for human life.

Planet	Distance from Earth (trillion miles)	Distance from Earth (Light Years)	Data Collection (Years)	Data Signal (Light Years)	Total Time (Light Years)
W	48	8	1.5	2	11.5
X	24	4	1.5	1	6.5
Y	36	6	1.5	1.5	9
Z	33	5.5	1.5	1.375	8.375

- Candidate should determine that Planet W will not return information in time for NASA to build evacuation spacecraft, and therefore should be eliminated from consideration.
- Candidate should drive the case and ask for additional metrics regarding water, atmospheric conditions, etc. to determine which planet would be most suitable to sustain life.

Mission Eternity

Prompt #2:

- Brainstorm: How should NASA determine which planet to explore first? What metrics would you want to look at when comparing Planets X, Y and Z?

Interviewer Guidance:

Qualities/metrics of a suitable planet:

- Distance from earth:
  - Feasibility of transferring population with less risk
  - Space travel timing issues
- Food/Water:
  - Farming capabilities
  - Water purity and quantity
  - Ability to raise livestock, sources of protein
- Atmospheric Conditions
  - Air Quality - Breathable? Does it require a head mask?
  - Presence of harmful gases
- Natural resources
  - Energy resources – light, fuel sources, etc.
  - Geography - Buildable terrain, Safety of terrain
  - Gravitational pull
- Climate
  - Temperature
  - Natural weather forces
  - Length of days/nights

Interviewer Guidance on Exhibit #2

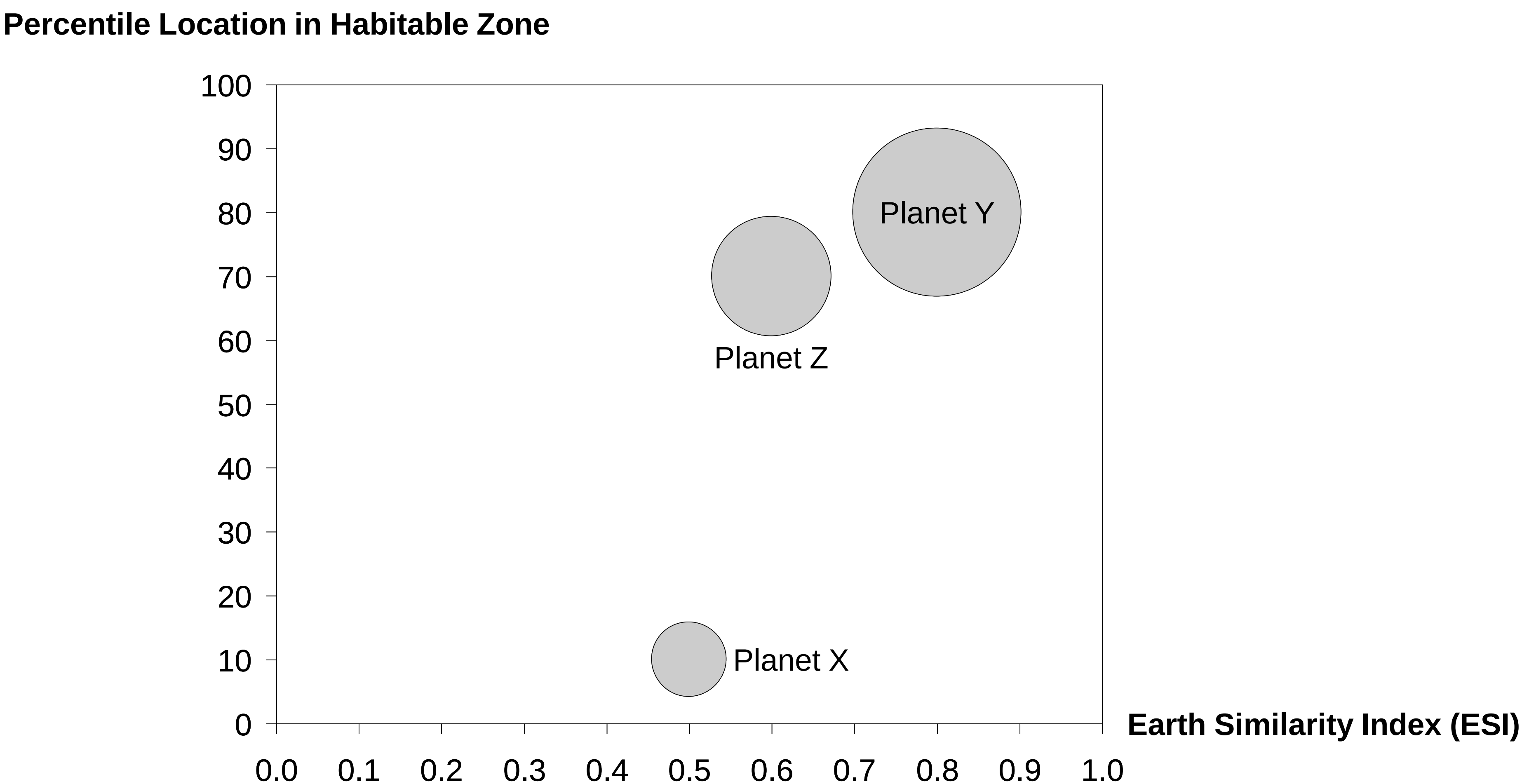
Prompt #3:

- *Candidate should drive case and focus on prioritizing one or two key metrics and ask for available data, then provide Exhibit 2*.
- NASA only has the manpower and financial resources to visit one planet. Prior robot missions returned the following results.
- In astronomy, the ***habitable zone*** is the region around a star within which planetary-mass objects with sufficient atmospheric pressure can support liquid water at their surfaces. In other words, this indicates the likelihood of water.
- ***Earth Similarity Index***, ESI, is a measure of how physically similar a planetary-mass object is to Earth. It is a scale from zero to one, with Earth having a value of one.

Guidance for Exhibit #2:

- The candidate should determine that Planet Y has the best indicators for supporting human life.
- Additionally, NASA's goal is to safely evacuate at least 20% of the world's population in the event of impact. Planet Y provides the best option for safely sustaining life.

Exhibit #2



Percentile Location in Habitable Zone
100
90
80
70
60
50
40
30
20
10
0
Planet Y
Planet Z
Planet X
Earth Similarity Index (ESI)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0

Mission Eternity

Recommendation

Example of a good recommendation:

- NASA should launch the Eternity Mission to Planet Y because it will return data before the 10 year deadline and has the highest indicators to sustain human life – with an ESI of 0.8 and a location in the 80th percentile of a habitable zone.
- Risks: Planet Y is the furthest away from earth, making the trip and hibernation riskier. It is also more costly, and a higher proportion of NASA's annual budget.
- Next steps: Prepare the mission to Planet Y, and (depending on costs) consider launching another mission to Planet Z since it would still return data in enough time.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Has two or fewer math mistakes. • Provides risks and next steps in recommendation. • Buckets the brainstorm in prompt #2.
Good Candidate	• Creates a table for exhibit #1's calculations. • Drives case and asks for the appropriate information. • Asks for explanation if they do not understand habitable zone and ESI.
Excellent Candidate	• Pulls in data from the initial prompt that with 10% probability of impact, there's more need to be budget conscious. • Takes shortcuts when calculating Exhibit #1: without calculating realizes Planet W will be outside of the 10 year deadline and Planet X will safely fall inside the deadline.

Case #12: Money On My Mine

Quantitative level: Medium
Qualitative level: Easy

Behavioral Questions

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Question 1:
• Where do you see yourself in 5 years?

Question 2:
• Tell me about a time when you had to relate to someone much different than yourself.

Money On My Mine

Prompt #1:

- A gold mining company has seen its revenue decline 20% over the past month. It has hired you to help reverse this trend.

Interviewer Guidance:

- The candidate should first seek contextual information to better understand the company's operating scope and geography then develop a framework that covers the following areas: gold extraction/sale value chain, industry trends, competitors, and geopolitical issues. **Information available upon request:**
- The company has two mines. One in Kazakhstan and one in Mongolia. Both are high elevation mines
- The mine in Mongolia is being ramped down, and is not a meaningful driver of revenues or costs
- Reserves in the Kazakh mine are plentiful
- There are no issues with the mining or processing parts of the value chain
- Within the Kazakh mine, the amount and location of gold is precisely known
- Gold prices have been remarkably stable and are projected to remain so
- The mine operates 24/7 365 days per year

Money On My Mine

Prompt #2:

- As it turns out, revenue decline has largely been due to a reduction in available gold from the company's mines. There is only one road that leads to the Kazakh mine, and it has recently been blocked by villagers who live in the area. The opposition political party seems to be organizing everyone. The company has learned through local connections that the opposition party is demanding \$2MM for the road to be cleared today. The company has also been informed by the Kazakh government they can clear the road in three days by military force. What information would you want to determine whether it makes sense to pay the \$2MM demand?

Interviewer Guidance:

- Not illegal to pay – but never done so in the past
- No financial outlay associated with military action
- Opposition party could clear road as soon payment is promised
- Sale price per ounce = \$1,200 per ounce
- Production capacity = 1,500 ounces per day
- Production capacity is 60% lower with blockage
- Costs –BRAINSTORM HERE “What kinds of costs should we consider?”
    - Transportation Gasoline = \$200,000 Per Day
    - Transportation Wear & Tear = \$10,000 Per Day
    - Employees = \$90,000 Per Day

Interviewer Guidance on Math

Interviewer Math Guidance:

	Pay the $2MM	Wait 3-Days
Revenue Per Day	$1.8MM	$0.72MM
Cost Per Day	$0.3MM	$0.3MM
Daily Contribution Margin	$1.5MM	$0.42MM
3-Day Contribution Margin	$4.5MM	$1.26MM
Payment to Opposition Party	$2MM	N/A
Net 3-Day Contribution Margin	$2.5MM	$1.26MM

****Wait 3-Days*** daily revenue is calculated by using 600 ounces of production per day (0.4*1,500)

Money On My Mine

Prompt #3:

What non-financial elements would you consider in determining whether the company should pay or wait for the military?

Additional facts and assumptions:

- Short-term vs. long-term profits
- Precedent
- Political instability
- Selling reserves

What if we could be assured, with 100% certainty, that this extortion-type behavior would never happen again?

Money On My Mine

Prompt #4:

How could the firm mitigate the risk of future politically motivated protests?

- Community Engagement
- Local leaders on company board
- Employ villagers
- CSR efforts

What would you recommend the company do and why?

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Gets all math correct.
Good Candidate	Gets all math correct and is thoughtful on qualitative aspect of the case.
Excellent Candidate	Drives the case. Weighs the financial and qualitative costs/benefits. Delivers a concise recommendation that includes next steps focused on limiting the likelihood of future production stoppages.

Case #13: Nick Tupoi – Candidate for MBA

Quantitative level: Medium
Qualitative level: Easy

Behavioral Questions

Question 1:
• Why should we not hire you?

Question 2:
• Give me an example of a time when you had to network extensively to get a job or a promotion.

Nick Tupoi – Candidate for MBA

Prompt #1:

- It is May 1, 2015. Your client is Nick Tupoi, who recently accepted his offer to join Fuqua's class of 2017. He is from Eastern Europe and currently owns a startup there. Nick is looking for your advice on what to do with the company once he leaves for Durham .

Interviewer Guidance:

The purpose of this case is to let the candidate think from the viewpoint of the client. This case is intended to be open ended and there are multiple possible solutions.

The following information should be provided upon request:

- The company's business is in the outdoor advertising space. The company owns 8 advertising billboards in a major Eastern European city and rents them out.
- Your client started the company 2 years ago and it has been profitable since then.
- The company has no full-time employees except for Nick himself. Short-term contractors are hired from time to time.
- Nick wants to stay and work in the US after his MBA.
- Your client owns 80% of the company and other 20% is owned by his partner.

A good framework should cover and assess two main possibilities: running the business from the distance while doing MBA or selling it. If the framework is not addressing these possibilities, ask your interviewee to brainstorm about it. Let the interviewee decide which opportunity he/she wants to assess first and proceed accordingly.

Nick Tupoi – Candidate for MBA

Interviewer Guidance: Running Business Distantly

If the interviewee wants to assess the idea of running the company distantly while doing MBA, push the candidate to think about major decision making factors.

Based on the information already provided, a strong candidate should be able to understand this is not a good option. If needed guide candidate towards this conclusion. Reasons leading to this conclusion could include :

- Nick is the sole employee and runs the business himself, and has limited time and money to find a replacement.
- Distance would imply a challenge in maintaining relationships with customers, and even if Nick tries, managing relationships over the phone is hard.
- Needs money and financial security to cover his tuition, and has taken a loan to finance his MBA .

Additional Information Provided Upon Request:

- Nick does most of the work at the company. He does everything from generating sales to maintaining the billboards.
- Nick does not have enough savings to cover the tuition at Duke.
- His partner has a full-time job and is not interested in running the company.

Nick Tupoi – Candidate for MBA

Prompt #2: Selling the Business

- Nick Tupoi agrees that it is a good idea to sell the business. He wants you to suggest an appropriate price for the company that allows him to finish the transaction until he has to move to Durham.

Interviewer Guidance: Selling the Business

- Ask the candidate to brainstorm potential buyers of this business, if not already discussed . Possible answers: his partner, competitors, company's major clients, etc.
- Provide this information upon request (let candidate brainstorm what's needed):
  - All 8 billboards are rented out for the whole year (100% occupancy).
  - The typical contract lasts 6 months.
  - The size and price are the same for all 8 billboards as shown in the Exhibit 1.
  - All the costs are covered by the first month's revenue from the contracts. Ignore all the other costs including depreciation.
  - Income tax is 20%.
  - Discount rate – see next guidance.

Exhibit 1

Note: price displayed is monthly rent

Nick Tupoi – Candidate for MBA

Prompt #3: Discount Rate

- Nick does not know what discount rate would be appropriate to use. He is a Fuqua student and he can take a student loan at 8.5% interest. He wants you to determine an appropriate discount rate.

Interviewer Guidance: Discount Rate

- There is no correct or incorrect discount rate for this case. Let the candidate qualitatively assess the situation and come up with the rate he wants to use.
- This question is meant to be ambiguous and is aimed at testing a candidate's ability to make an independent decision quickly in this ambiguous context .
- The 8.5% interest rate is unrelated to his business and is meant to anchor the candidate. Question the interviewee why, if he/she wants to use that rate.
- Some of the factors that should be considered in analyzes:
  - Business is mature and asset-driven, so has been predictably profitable since the beginning and the company has 100% occupancy rate (low risk).
  - Business depends entirely on Nick and is questionable without him (high risk).
  - Nick needs to sell the business fast, so using a higher discount rate makes sense.

Nick Tupoi – Candidate for MBA

Interviewer Guidance: Calculations

- Calculations below assumed 6 month contracts (i.e. costs = 1/6 of revenue).
- After candidate get's the NPV, ask to do qualitative analyses and give deeper insights about the results.

	Result	Calculation
Billboard Size (sq.ft)	500	25 x 20
Renting Price ($)	$5,500	500 x $11
Sales Tax ($)	$500	500 x $1
Revenue per billboard per month	$5,000	$5,500 - $500
Revenue per billboard annual	$60,000	$5,000 x 12
Total Revenue	$480,000	$60,000 x 8
Total Costs	$80,000	$480,000 / 6
EBIT	$400,000	
Income tax	$80,000	$400,000 x 20%
NI	$320,000	
NPV (25%)	$1,280,000	$320,000 / 0.25
Nick's Share	$1,024,000	$1,280,000 x 80%

NPV Results at Different Disc. Rates	
Discount Rate	NPV
10%	$ 3,200,000.00
15%	$ 2,133,333.33
20%	$ 1,600,000.00
30%	$ 1,066,666.67
40%	$ 800,000.00
50%	$ 640,000.00

Nick Tupoi – Candidate for MBA

Interviewer Guidance – wrapping up the case

- Candidate will understand that company is worth a lot more than funds needed for Nick's MBA.
- A strong candidate will understand that selling a company in a short timeframe will result in a lower valuation, and the candidate will suggest some alternative options.
- In the end ask for 30-second wrap-up.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Average candidate will need assistance to go through the case.
Good Candidate	Good candidate will be able to independently solve the case from the MBA student perspective
Excellent Candidate	Will not only be able to come to final conclusion independently but also give high level insights. Such a candidate will understand that company is worth a lot and would even question Nick's decision to do MBA and work for large company.

Case #14: Not-So-Poshtel

Quantitative level: Medium
Qualitative level: Easy

Deloitte Case Writing Competition Finalist

Behavioral Questions

DUKE THE FUQUA SCHOOL OF BUSINESS

Question 1:

- Tell me about a time that you were given an assignment at work that you were less than enthusiastic about. How did you handle it?

Question 2:

- How would you describe your relationship with your last manager?

Not-So-Poshtel

Prompt #1:

- Your client is the owner of Not-So-Poshtel; a chain of hostels located in major European cities. Growth for Not-So-Poshtel has been stagnant over the past several years. The new owner of Not-So-Poshtel has seen a lot of press about significant growth in poshtels (or luxury hostels) and wants to know if she should consider transforming her hostels into the luxury variety.

Interviewer Guidance:

Background Information:

- Luxury hostels are a cross between hostels and boutique hotels. They can include perks such as more private bunks or rooms, trendy amenities, regular maid service, tech savvy features, etc.
- All hostel locations perform at the same level financially.
- The owner's goal is to increase profitability.

Framework Guidance:

- The candidate should convey that they need to understand current financial performance of the hostels, cost to upgrade to a poshtel, and expected financial performance of the poshtels. They should also highlight qualitative factors that need to be considered.
- An NPV analysis will be required

Not-So-Poshtel

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #2

- What type of revenue and cost information would you need for a hostel?
- How do you think a Poshtel would compare on these metrics (e.g. higher / lower) and why?

Interviewer Guidance:

- Once the candidate finishes brainstorming, provide the below information on revenue / costs for hostels only.
- The candidate should also ask for the revenue / costs for Poshtels; guide them in that direction.

	Hostel	Poshtel	Key
Revenue:			*Do Not Provide*
Price per night	$20	50% more	$30
Number of beds	50	20% less	40
Average occupancy rate	60%	25% more	75%
Costs (monthly)			
Rent	$4,000	Same	$4,000
Utilities	$1,000	100% more	$2,000
Employees	$5,000	20% more	$6,000

Not-So-Poshtel

Interviewer Guidance (Continued):

The candidate should calculate annual profit for hostels and poshtels. They can ignore the number of hostels owned by Not-So-Poshtel and calculate profit per location.

Profit Calculations Required:

Revenue = Cost per night * Number of Beds * 30 Days in a Month * 12 Months * Average Occupancy Rate

- **Hostel** = $20 * 50 * 30 * 12 * 60% = $216K
- **Poshtel** = $30 * 40 * 30 * 12 * 75% = $324K

Costs = Rent * Utilities * Employees * 12 months

- **Hostel** = $4K + $1K + $5K *12 = $120K
- **Poshtel** = $4K + $2K + $6K * 12 = $144K

Profit = Revenue – Costs

- **Hostel** = $216K - $120K = $96K
- **Poshtel** = $324K - $144K = $180K

Profit Differential = Poshtel Profit – Hostel Profit

- $180K - $96K = $84K

Calculations can also be done monthly then calculated out annually at the end

The candidate should summarize their findings, noting that poshtels appear to be more profitable than hostels. They should note that they need to understand the cost to upgrade to a poshtel before they can determine whether the transformation is a good idea for Not-So-Poshtel.

Not-So-Poshtel

Interviewer Guidance (Continued):

The candidate should ask for the cost to upgrade one hostel to a Poshtel and then complete an NPV analysis. They should assume that this is a perpetuity and that profit = free cash flow.

Provide the following information to the candidate:
Discount Rate = 10%

Upgrade Investment = $200K per hostel

NPV Info and Calculations Required:

Free Cash Flow = Annual Poshtel Profit – Annual Hostel Profit
- **Hostel** = $180K - $96K = $84K

NPV (Perpetuity) = (FCF / Discount Rate) – Upgrade Investment
- ($84K/10%) - $200K = $840K - $200K = $640K

The candidate should summarize their findings thus far and ideally note that there are non-financial factors that need to be considered.

Not-So-Poshtel

Prompt #3

- What else should the owner of Not-So-Poshtel consider aside from financial factors?

Interviewer Guidance:

- The interviewee has flexibility in how they brainstorm this question, options could include:
  - Internal:
    - Staff – Would new staff members with different skill sets be needed?
    - Customers – Do poshtels have the same customer base as hostels? Is there overlap or would Not-So-Poshtel need to target a different demographic.
    - Not-So-Poshtel Brand – Will customers be willing to pay a premium for a poshtel from the same name or is re-branding required?
  - External:
    - Poshtel Industry – Is this a fad or will it stick?
    - Locations – Are poshtels more popular in certain cities?

Not-So-Poshtel

Recommendation

- The owner will be here in 1 minute, what is your recommendation?

Interviewer Guidance (Sample):

- Recommendation
  - Not-So-Poshtel should pursue a transformation from hostel to poshtel given NPV of $640K per hostel
  - A pilot approach could be beneficial – transform one hostel and test assumptions before transforming others
- Risks
  - Different clientele – Would Not-So-Poshtel be able to attract the right guests?
  - Branding – Does Not-So-Poshtel need to rebrand?
  - Industry – Are Poshtels just a fad?
- Next Steps
  - Select which hostel to transform first
  - Prepare for transformation (financing, architect/contractors, etc.)
  - Monitor impact of transformation and determine if other hostels should be transformed

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Identifies the need to compare profitability for hostels and poshtels • Completes each prompt, but does not drive case forward
Good Candidate	• Identifies that an NPV analysis is needed • Proactively comes up with revenue / cost categories for a hostel / poshtel and provides insight on why there are differences • Proactively identifies that there are other non-financial factors to consider
Excellent Candidate	• Good candidate assessment + below • Moves through calculations in a clear and thoughtful way • Drives case by proactively asking for information that is needed • Engages interviewer, is conversational, and enjoys the process

Case #15: Refinery in the Country of Georgia

Quantitative level: Medium
Qualitative level: Medium

Behavioral Questions

DUKE
THE FUQUA SCHOOL OF BUSINESS

Question 1:

- Tell us about a time you had a conflict with a supervisor.

Question 2:

- Tell us about a time you faced an ethical dilemma, how did you handle it?

Refinery in the Country of Georgia

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Prompt #1:

- It is 2012 and your client is one of the largest retailer of oil products in the country of Georgia (Eastern Europe). Company is exploring the idea to build crude oil refinery in Georgia and has hired you to evaluate the idea.
- The goal of the company is to understand what the capacity of refinery should be and wants to make go/no go decision.

Interviewer Guidance:

Here is some background information that interviewee might ask about:

- Company controls roughly 25% of all oil product sales in Georgia.
- Currently there are no crude refineries in Georgia. All of the refined oil products are imported from other countries.
- For the simplicity, consider three major oil products for this case: Gasoline, Diesel and Other Oil Products.
- Georgia produces 100 000 tons of crude oil annually and this number is projected to stay stable. All this crude is exported to foreign countries.
- The possibility of importing crude oil from neighboring countries is limited. Importing from countries further is associated with high transportation costs.
- Oil refinery is the plant where input is crude oil and output is the final products ready for retail consumption like gasoline, diesel and etc.

Refinery in the Country of Georgia

Interviewer Guidance on Framework:

Good framework should identify it as a investment case and would cover both Quantitative and Qualitative aspects of it:

Quantitative: Candidate should identify key variables needed for evaluating the projects: Revenue and Fixed and Variable costs.

Qualitative: Candidate should mention that there are multiple factors to be taken into consideration: availability of raw materials, demand on market, price fluctuations and other risks.

Refinery in the Country of Georgia

Prompt #2:

As a first step, your client wants to identify what should refinery's capacity be. Traditionally, oil refineries have very high capacities but recent technological advances allow to build small size refineries with the same efficiency at the same cost levels.

Note: Hand exhibit 1 to interviewee.

Interviewer Guidance:

- From the exhibit interviewee should be able to identify that there is no opportunity to import additional raw material and the capacity should be around 100 000 tons.
- Candidate should notice that 100 000 tons is roughly 10% of current consumption and due to high transportation prices there would be enough demand on local production.
- If needed give hints to push candidate towards this answer.
- If needed push the candidate towards next step – financial projections.

Exhibit #1

Oil Products Consumption in Georgia		
Year	**Product**	**Tonns**
2012	Diesel	380,000.00
	Gasoline	470,000.00
	Other Products	40,000.00
2013	Diesel	400,000.00
	Gasoline	500,000.00
	Other Products	40,000.00

Crude Oil Production in Georgia	
Year	**Tonns**
2010	93,000.00
2011	108,000.00
2012	102,000.00
2013*	105,000.00
2014*	105,000.00

* projected amounts

Industry Facts:

- All crude oil produced in Georgia is exported. Oil producers are forced to sell their product at low prices due to small amounts and associated transportation costs.
- The possibility of importing crude oil from neighboring countries is limited. Importing from countries further is associated with high transportation costs.
- All oil products are imported in Georgia. Due to high transportation costs, local retail prices are extremely high.

Refinery in the Country of Georgia

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Prompt #3:

Client wants to use discounted cash flow model to get NPV. For simplicity assume year 1 projections will remain same in perpetuity with no growth.

Discount rate: 10%

Tax rate: 20%

Depreciation: Ignore depreciation for this case.

Interviewer Guidance:

- Let interviewee choose where to start from: cost projections or revenue projections.
- Provide information according to candidate's choice.
- See exhibit 3 for NPV calculation and additional guidance. <u>Note: don't give it to interviewee.</u>

Refinery in the Country of Georgia

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Interviewer Guidance on Costs

Let the candidate brainstorm what the cost items are. Candidate should be able to break costs into fixed and variable parts.

Capex: Construction costs are estimated to be $500 000 per 1000 tons of refining capacity. The company owns a piece of land, so it can be ignored .

Fixed Costs: Labor: Assume 1 employee will be needed per 1000 tons of refining capacity. Average annual salary $20 000 per employee. Other costs: assume all the overheads will be 10% of total revenue.

Variable Costs: Crude Oil: Use market price of oil - $600 per ton.

Labor Cost calculation	
Employees needed	100
Salary per employee	$ 20000.00
Total salaries	$ 2,000,000.00

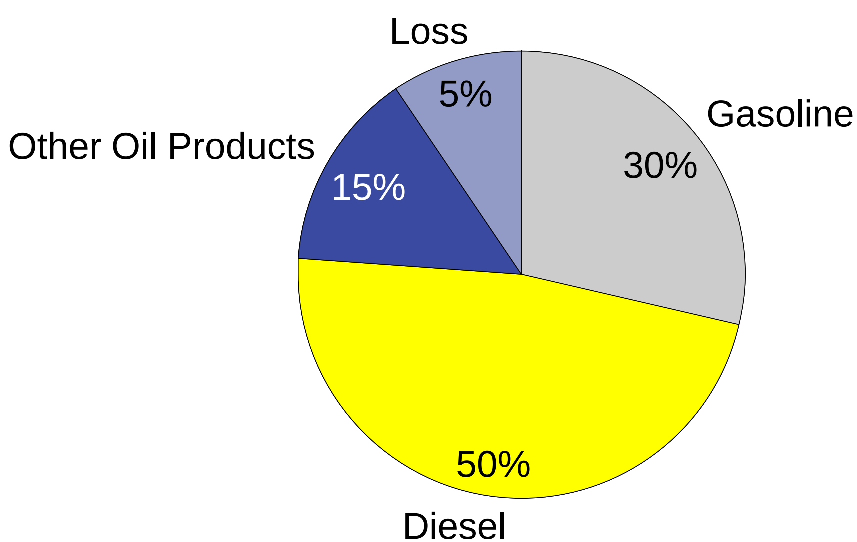
Capex calculation	
Refining capacity (tons)	100,000.00
Cost per 1000 tons	$ 500,000.00
Total construction costs	$ 50,000,000.00

Refinery in the Country of Georgia

Interviewer Guidance on Revenues
Let the candidate brainstorm how to calculate revenues. Candidate should identify that there will be two main variables to project the revenue: 1. output amounts of final products and 2. price of output products. Note: Hand exhibit 2 to interviewee only after candidate finishes brainstorming.

Exhibit 2

Expected Output from Georgian Crude Oil



Wholesale Prices of Oil Products in Georgia	
Gasoline ($ per tonn)	$ 1,000.00
Diesel ($ per tonn)	$ 900.00
Other Oil Products ($ per tonn)	$ 700.00

Interviewer guidance on Exhibit 2

Exhibit #2 Guidance:

Using the exhibit interviewee should be able to calculate revenue per product and total revenue.

Product	Output amount (tons)	Price Per Ton	Revenue
Gasoline	30,000.00	$ 1,000.00	$ 30,000,000.00
Diesel	50,000.00	$ 900.00	$ 45,000,000.00
Other Oil Products	15,000.00	$ 700.00	$ 10,500,000.00
Total Revenue			**$ 85,500,000.00**

Exhibit 3 – DO NOT HAND TO INTERVIEWEE!

	Year 0	Year 1
Cost of construction	$ 50,000,000.00	
Revenue		
Sale of Gasoline		$ 30,000,000.00
Sale of Diesel		$ 45,000,000.00
Sale of other oil products		$ 10,500,000.00
Total Revenue		$ 85,500,000.00
Costs		
COGS - Crude oil costs		$ 60,000,000.00
Labor costs		$ 2,000,000.00
Other Costs		$ 8,550,000.00
Total Costs		$ 70,550,000.00
EBIT		$ 14,950,000.00
Tax		$ 2,990,000.00
EBIT (1-t)		**$ 11,960,000.00**
NPV	**$ 69,600,000.00**	

Exhibit #3 Guidance:

- This calculation uses simple approach. NPV = EBIT(1-t)/10% - initial investment
- Ideally candidate can use General free cash flow formula: FCF = EBIT(1-t) + Depreciation + Non-cash items – CapEx – Change in NWC.
- This can complicate calculation too much, so guide candidate to take simpler approach.

Refinery in the Country of Georgia

Interviewer Guidance – wrapping up the case

- After NPV calculation interviewee should understand that it seems very attractive project.
- Let candidate brainstorm on qualitative stuff – what are risks, weaknesses in assumption, etc.
- After that ask candidate for final recommendation

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Average candidate will find it hard to identify key variables needed to make go/no go decision. Interviewer will need to give directions on each step
Good Candidate	Good candidate will be able to independently go through the case and with minimal assistance come to final conclusion.
Excellent Candidate	Will not only be able to come to final conclusion independently but also give high level insights of what are risk factors and weaknesses in assumptions used for calculation. (such as: volatility in oil prices, using perpetual model an so on).

Case #16: Snail Network Co.

Quantitative level: Difficult
Qualitative level: Easy

Behavioral Questions

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Question 1:

- Have you ever received a task that you initially thought was impossible to accomplish? What did you do about that?

Question 2:

- What would you do if given six months' break?

Snail Network Co.

Prompt #1:

- Snail Network Co. is a SF-based company that manufactures super high speed networking equipment. In 2009, it developed a milestone technology that could eliminate 99% of the disconnection issues in traditional devices. This technology has helped the company become a monopoly in the industry. Last month, Snail Network Co. welcomed its new CEO, Steven Maple, who is known to be the most aggressive leader in Silicon Valley. Steven is not satisfied with Snail Network's current profitability level and wants you to help them on this issue.

Interviewer Guidance:

- This is a profitability case. The target is to achieve 50% on gross margin.
- There is no information about previous profit margin. Just tell candidate to focus on current product.
- Ignore the competition in the whole industry.
- A good candidate should provide a framework to include both increasing revenue and reducing cost.
- Guide the candidate to start from the cost side.

Snail Network Co.

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Prompt #2:

- The client has three products: Product A, B and C. They only differ from one another slightly. All three types share the same, and only production line. The client doesn't want to increase internal capacity or expand by merger and acquisition.
- The client has decided to focus on just one product in the future as manufacturing three together significantly impacts operational efficiency.
- Start from cost side and provide candidate with exhibit #1

Interviewer Guidance:

- From prompt #2, candidate should understand that the ultimate goal is to select the product which could result in the highest profit margin, and compare this to the 50% goal.
- The information provided by exhibit #1 is not adequate for candidate to make decision since no information about volume and price is given at this moment.
- Exhibit #2 can be provided together with Exhibit #1 if candidate asks about capacity and market demand.
- Do not provide Prompt #3 and Exhibit #3 at this moment.

Exhibit #1: Costs

Product	Fixed Costs/year	Variable Cost (Per unit produced)	Capacity /year
A	$27,000	$1000	600,000
B	$15,900	$800	700,000
C	$35,000	$1200	500,000

Interviewer guidance on Exhibit #1

Exhibit #1 Guidance:

- The candidate should quickly figure out that fixed cost is negligible.
- A good candidate might ask whether full capacity could be reached for each of them. If asked, give him/her exhibit 2, otherwise, wait until the candidate finishes calculations here.

Analysis:

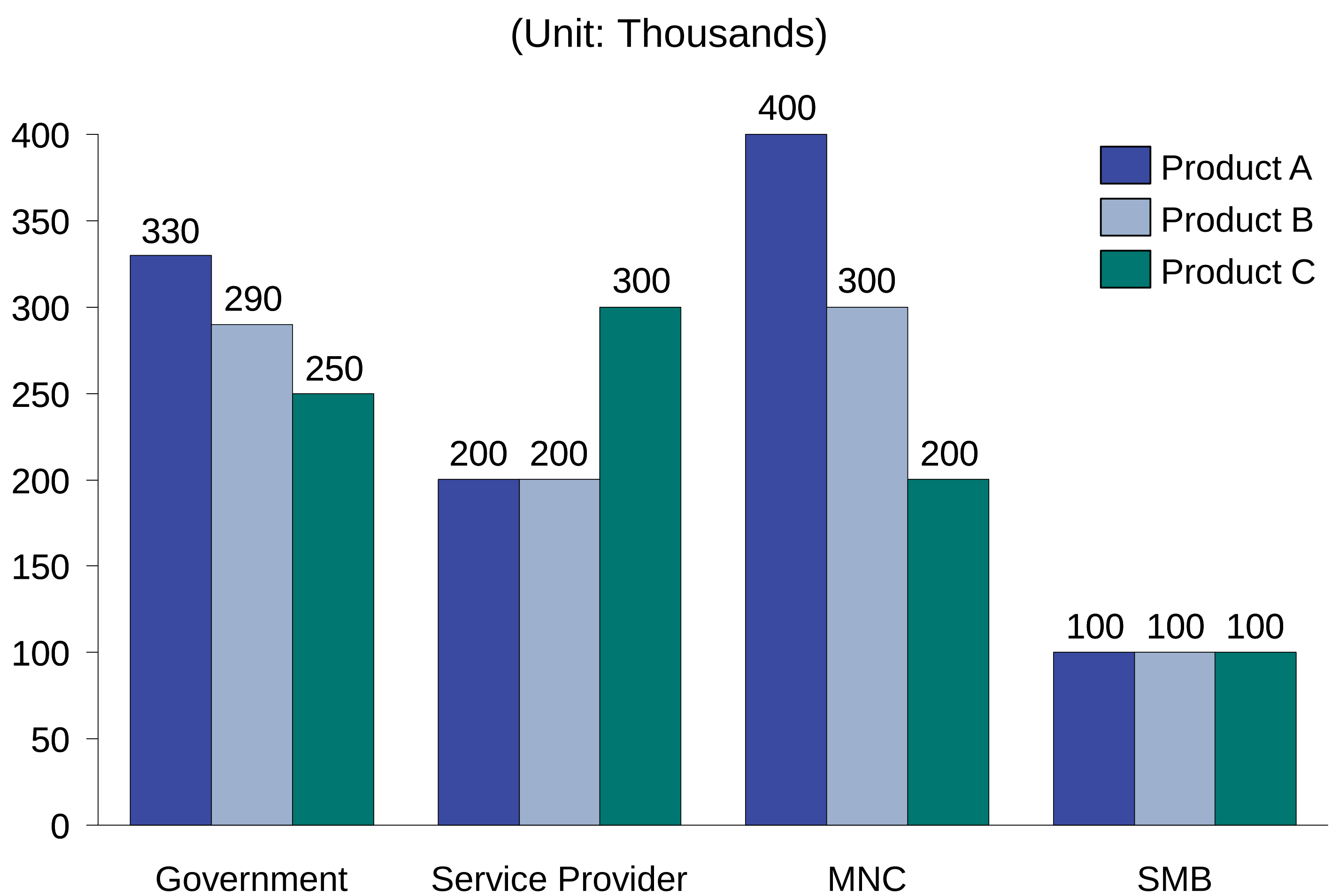
- Neglect the fixed cost, the operational cost of three products if reaching full capacity
- Product A

  Cost_A=1K * 0.6M =$0.6B
- Product B

  Cost_B=0.8K * 0.7M =$0.56B
- Product C

  Cost_C=1.2K * 0.5M =$0.6B

Exhibit #2: Annual Market Demand



Interviewer guidance on Exhibit #2

DUKE THE FUQUA SCHOOL OF BUSINESS

Exhibit #2 Guidance:

- Exhibit #2 shows the four customer segments Snail Network Co. sells to.
- MNC represents Multi-national company.
- SMB represents small and medium business.
- The candidate should tell from exhibit #2 that Snail Network Co. cannot meet the demand for any of the three products. As the client won't increase capacity at all, they need to operate at full capacity no matter which product they decide to make.

Analysis:

- For product A, the total demand is:

  350+250+400+50=1050>600
- For product B, the total demand is:

  270+200+300+80=700>600
- For product C, the total demand is:

  300+300+150+100=850>600

Snail Network Co.

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #3:

- Snail Network Co. sells its product through three different channels- direct sales, distributors and authorized partners.
- In each segment, the end consumers get the same price for the same product, no matter what channel the product is sold through.
- The fixed cost for direct sales is $100 Million per year. No extra variable cost.
- Provide candidate with Exhibit #3.

Interviewer Guidance:

- Touch on how and at which price the client sells products- the revenue side.
- Traditionally, an equipment manufacturer sells its product directly or through resellers such as distributors or partners.
- If the product is sold through resellers, the client should not care about end customer price.

Exhibit #3: Pricing

The end customer price in each segment for each product

Product	Government	Service Provider	MNC	SMB
A	$1800	$1800	$2000	$2000
B	$1500	$1500	$2000	$2000
C	$2000	$2000	$2500	$2500

The price Snail Network Co. sells to resellers

Product	Distributors	Authorized Partners
A	$1450	$1480
B	$1100	$1150
C	$1700	$1750

Interviewer guidance on Exhibit #3

Exhibit #3 Guidance:

- It's clear that the client can make more money by selling through partners than distributors.
- If the client sells only through partners, the gross margin cannot reach 50% at all. See analysis on the right.
- For direct sales, the candidate should use the market price as we do not use agency. The client should sell to MNC and SMB first as their prices are higher than the other two.

Analysis:

- For partner prices:

A: $1480< $1000*(1+50%) =$1500

B: $1150< $800*(1+50%) =$1200

C: $1750< $1200*(1+50%) =$1800

- For direct sales, the revenue should be

A: $2K*(100+400)K + $1.8K*100K[1]=$1.18B

B: $2K*(100+300)K+$1.5K*300K= $1.25B

C: $2.5K*(100+200)K+$2.0K*200K=$1.15B

As we already got the operational cost:

A: $0.6B B: $0.56B C:$0.6B

Obviously product B has the highest margin:

(1.25-0.1-0.56)/0.56 =0.69/0.56> 50%

Note1: from exhibit #1, the capacity of product A is 600K, so the remaining quantity for government and service provider should be (600-400-100)K=100K

Snail Network Co.

Recommendation

- From the calculation, we recommend to manufacture product B and sell only by direct sales.

Interviewer Guidance:

- The candidate should reach the recommendation naturally after calculation.
- If there is more time, interviewer could guide the candidate on more qualitative analysis. For example, what are the other ways to increase the profit margin? The suggested answer could include increasing the price to resellers, expanding the production line to achieve better scales of economy, or stimulating sales force to reach to more MNC and SMB customers. This is an entirely open-minded question

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Have basic understanding of cost structure. • Resolve the case by passively receiving each prompt.
Good Candidate	• Proactively lead case in both cost and rev branches. • During framework, naturally come up with concepts such as customer segmentation or sales channel, etc. • Efficient in calculation.
Excellent Candidate	• Not only get to the right answer, but also provide further thoughts to expand the possibilities in achieving the target.

Case #17: Te(ch)trix

Quantitative level: Medium
Qualitative level: Medium

Behavioral Questions

Question 1:

- What is the toughest problem you have solved?
- Candidate should
  - provide relevant context to help interviewer understand the complexity of the problem
  - appear enthusiastic about walking through the several steps of solving the problem
  - great answers include a creative solution and talk about the “human element” (i.e. impact on people) of the problem

Question 2:

- What draws you to the office you’re applying to?
- Candidate should give an authentic response involving reasons that are personal (e.g. existing and newly made connections with the office, significant others, family, etc.) and professional (e.g. an industry or function that is/are the office’s strengths).

Te(ch)trix

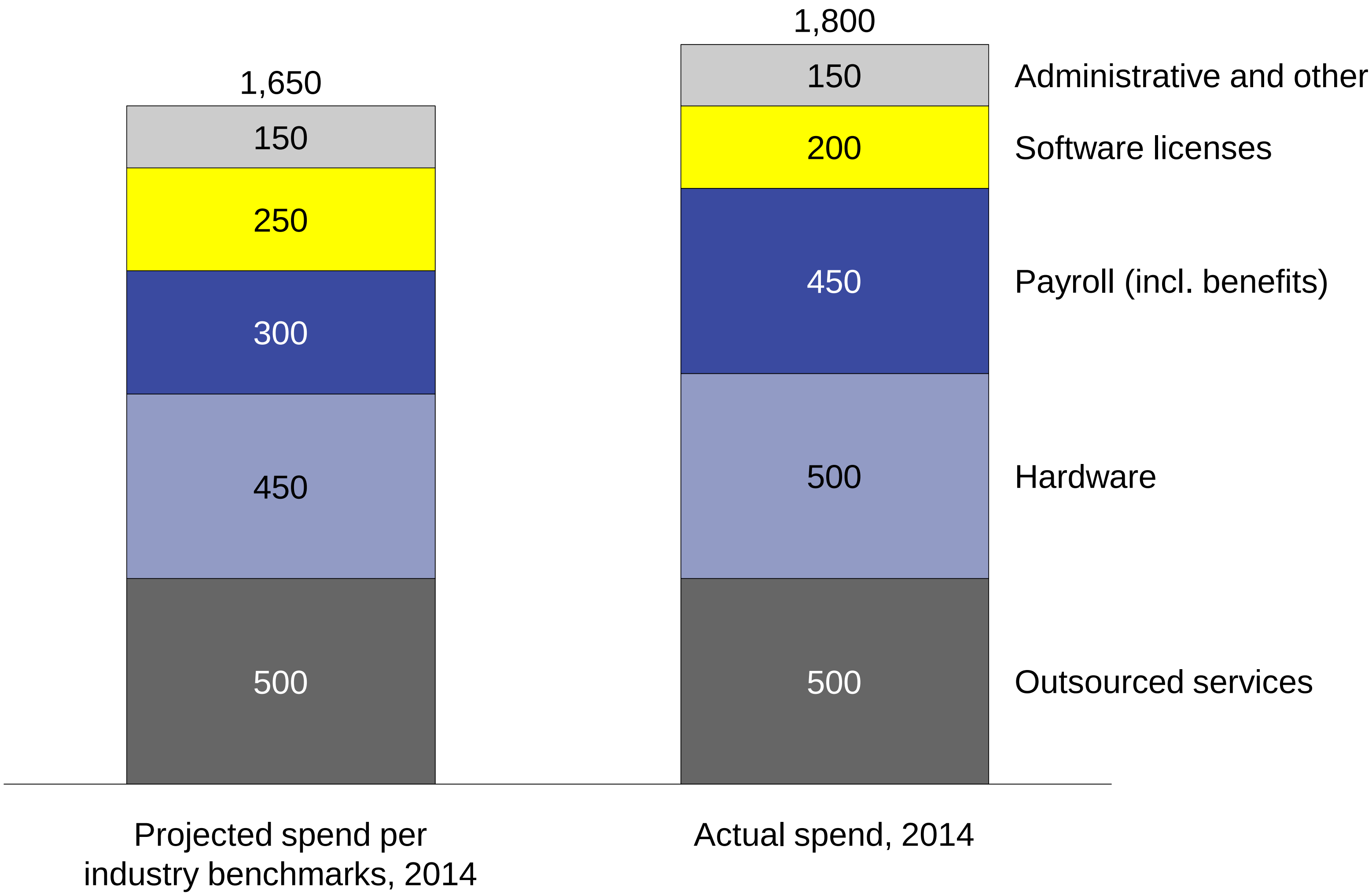
Prompt #1:

- An enterprise technology company (that builds applications for businesses) outsourced large parts of its organization, thereby reducing its employee base by 60%. Yet, they are spending $1.8B, $150M more than industry benchmarks [**Provide Exhibit 1 now**]. Tensions among employees are high with fears of more lay-offs, and there is immense pressure on the CEO, your client, to close the gap to industry benchmarks. How would you advise the client?

Interviewer Guidance:

- Having looked at the chart, a good candidate should zero in quickly on the payroll problem, and the case framework should be about further reducing payroll cost and/or why they haven't realized projected cost reductions yet. **Do not** let the candidate develop a framework till you are convinced she is focused on the payroll problem, else the framework will be wasted effort.
  - Many frameworks would work, but simply put, payroll = # employees x $ salary / employee. A good framework will address the following: a) does the client have the right number of people, or can it be lower?; b) could we lower compensation for (some or all) employees, and how?
  - A good plan will also include post-outsourcing change management related issues (refer tensions in the organization), but related to the original goal of cost reduction (e.g. cost optimization from training on new processes, etc.)
- Probe any other, unrelated questions the candidate asks. If they ask about the client's products, or customers, etc., that information is unavailable, but ask why they think that's relevant to know. If they ask about any other cost categories, ask them what impact they could have there.
- Also, you do not need the candidate to drive to the next prompt. When a candidate discusses the payroll issue in sufficient depth through her framework , go to the next prompt [McKinsey often adopts this style].

Te(ch)trix - Exhibit #1



Te(ch)trix

Prompt #2:

- The client has actually understood that "centralizing" certain functions could help reduce payroll cost. Centralizing [for this case] implies dispersed employees are shifted to <u>one</u> location. Between Development, Support and Admin, which function(s) could be centralized? Currently, each function is present in 7 countries, where the business has customers.

Interviewer Guidance:

- Explanations of the functions, to be released when asked: Development – team creates and improves products as per business needs, mostly comprised of highly skilled software engineers; Support – team is the first point of contact with customers, relays customer needs to Development; resolves some basic issues directly, but escalate more complex ones to Development; Admin – administrative functions incl. HR, procurement, finance, etc.
- A good answer could suggest some of the following factors, and assess the functions as follows:
  - [Most important] Customer relationship management – closer you need to be the customer, harder it is to be centralized. In this case Development does not need to be close to customers since it has Support as a link, and so can likely be centralized.
  - Standardized global services – good candidates should probe further about Admin. Some, not all, functions included in OAS (e.g. finance, procurement) could be central.
  - Other potential risks – good candidates will talk about time zones, plus new regulation and availability of talent in the new central location potentially lead to challenges.
- Good candidates would drive the problem to talk about the opportunity of shifting all resources in Development and some in Admin to a central location, and about identifying that new location. A good conclusion could including a request for more data on number of employees in Development by location.

Prompt #3:

- The client agrees that centralizing Development and 50% of Admin staff is feasible. Will making these changes be sufficient to close the gap to industry benchmarks? [Provide Exhibit 2]

Interviewer Guidance:

- Additional information to be provided when asked: cost for Developers in high-cost locations is $250k / FTE, and in low cost locations is $100k / FTE; cost for Admin in high-cost locations is $200k / FTE and in low cost locations is $50k / FTE.
- A simple math framework like the one below makes it easy to follow:

	Dev	Admin
Number of employees in high-cost locations	500	420
Number of employees possible to shift	500	210
Cost differential from high to low cost country ($)	150,000	150,000
Total cost reduction impact ($M)	75.0	31.5
		106.5

- Good candidates should power through the math fairly quickly, but more importantly conclude that these changes will be insufficient to cover the $150M gap. This should be a natural prompt to look elsewhere for savings, expecting the candidate to creativity brainstorm other cost reduction areas that might have been missed, potentially referring back to the original payroll cost reduction framework they had suggested. Great candidates might also suggest that such changes in large organizations involve several costs themselves (e.g. severance payments, relocation payments, etc.)

Te(ch)trix - Exhibit #2

(# FTEs)	**Develop-ment**	**Support**	**Total ex-Admin**	**Admin**	**Total**	**Type of location**
India	300	500	800	200	1,000	Low-cost
Germany	100	500	600	200	800	High-cost
United States	300	150	450	150	600	High-cost
Philippines	50	400	450	100	550	Low-cost
Mexico	50	240	290	60	350	Low-cost
United Kingdom	100	60	160	70	230	High-cost
China	50	50	100	25	125	Low-cost
Total	950	1,900	2,850	805	3,655	

Te(ch)trix

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Recommendation

- Given the client cannot reach the projections by shifting resources from high-cost to low-cost locations, how else can they cover the remaining gap to their $150M goal? What risks do you see with this plan, and what do you propose the client do next?

Interviewer Guidance:

- No quantitative analysis is required at this point.
- A strong closing would refer back to the original framework created for the prompt, and discuss some ideas to further reduce payroll spend that were left behind then.
- One of the most important takeaways is that 2/3rd of the $150M gap can be achieved by relocating resources – not firing them, which was a source of anxiety within the organization originally.
- Any creative ideas are welcome here, as long as they are backed by sound logic. It's OK even if the candidate's logical process rejects some ideas originally on paper.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	• Quickly zeroes in on payroll problem • Comfortable with simple math in prompt #3
Good Candidate	• Lays out a conceptual framework for prompt #2, and solves the problem with limited guidance • Drives the case from prompt #2 to prompt #3
Excellent Candidate	• Creative ideas in framework and recommendation • Understands and refers to tensions at the company, and refers to the outsourcing context • Brings in past experiences somewhat related to the problem to make educated guesses

Case #18: ValueCenter Human Capital

Quantitative level: Not applicable
Qualitative level: Medium

ValueCenter Human Capital

Prompt:

- Your client, ValueCenter, is the nation's largest, global retailer. The company is implementing a new supplier management system in order to increase the transparency into the purchasing decisions and ultimately decrease costs. This new system will replace thousands of homegrown systems currently used within the company. Currently, orders placed from suppliers are manually keyed into ValueCenter's ERP system at local offices by employees. With the new system, the goal is to have a centralized platform where ValueCenter employees can input new supplier information and place orders. Additionally, the new system will allow suppliers to log into the system to update information like address and billing changes, something ValueCenter employees had to do in the past. Because of the size and international scope of ValueCenter, the implementation of the system will be rolled out in phases.

- The leadership at ValueCenter is worried at how this change will affect its employees and productivity so has hired you to advise the company through this change. How would you assist the client as it does through this large scale change?

Interviewer Guidance

Interviewer Guidance:

- Guiding Questions:
  - Who are the stakeholders involved?
  - What are the anticipated challenges you foresee?
  - What phases would you propose to roll out the implementation?
- Additional Information:
  - The last large scale tech implementation resulted in a huge loss in productivity because of a lack of training. Because of this, training is a priority for leadership.
  - Leadership wants to roll out the implementation in mid-size markets first. Proposed markets are Mexico, Hong Kong, Brazil and Canada.
  - Management needs the training schedule to be flexible and time sensitive. Hours spent in training are hours spent away from productive work.
  - The culture of ValueCenter is high efficiency at the lowest possible cost.

Answer

Human Capital Strategy:

- Structure: Assess, Design, Deliver (with accompanying workstreams)
- **Assess**
  - Stakeholder Analysis: Conduct a stakeholder analysis to identify key stakeholders (those employees who will be impacted by the change and to what extent) at each of the locations that the new system will be rolled out.
  - Change Impact Assessment: Conduct a change impact analysis (i.e a forum for those impacted stakeholders) to identify concerns about the new system and document all procedural changes that will need to be addressed via training and communications)
- **Design**:
  - Training: Design training materials to prepare employees for the new system. These training materials should vary in the type of delivery to ensure they are adaptable to all learning styles. For example, there should be instructor led trainings, computer based trainings and quick reference guides for FAQs.
  - Communications: Design a communications plan documenting all communications that will be delivered to stakeholders. This plan should outline what group of stakeholders should receive what message, the frequency of the communications, the vehicle of communication and the due date.
  - Change Management: For such a large-scale change, it would be advantageous to create a Change Agent Network made up of “change agents” who will champion the new technology and be subject matter experts on the new system amongst colleagues. The Change Agent Network would meet several times before the Go-Live date to receive additional training on the system and get the opportunity to answer any questions or address any concerns arising from colleagues.
- **Deliver**:
  - Training: Roll out training in a time sensitive way, ensuring that employees can receive the training that they need without sacrificing too much time away from their day-to-day work. Offer the training as close to the Go-Live date as possible.
  - Communications: Execute on the first communications that are meant to build awareness. As the Go-Live date approached, the emails will be more tactical with system updates and how to prepare for G-Live.
  - Change Management: Facilitate Change Network Meetings to inform the change agents of upcoming events. Inform all employees that the change agents will be the go-to people for questions regarding the change and new system so that management can carry on with day-to-day activities.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	The candidate does not use a framework but does identify some workstreams like training, communications and change management.
Good Candidate	The candidate uses a framework like Assess, Design, Deliver and identifies some of the workstreams like training, communications and change management. The candidate provides some detail on how to execute each workstream.
Excellent Candidate	The candidate uses a framework like Assess, Design, Deliver and identifies the training, communications and change management workstreams. Additionally, the candidate details how to execute each workstream in the given phase and references a timeline for completion. The candidate tailors their answers to the prompt, highlights training as a main priority and identifies challenges they foresee.

Case #19: Walter Black Industries

Quantitative level: Medium
Qualitative level: Difficult

Deloitte Case Writing Competition 2nd Place

Behavioral Questions

Question 1:

- Describe a time when you disagreed with your team or supervisor.
  - Was the disagreement resolved and if so, how?
  - What did you learn from that experience and what would you have done differently?

Question 2:

- What is the hardest piece of feedback that you ever received in a professional setting?
  - What did you do upon receiving that feedback?
  - Have you had the opportunity to follow up with the person you received feedback from and if so, what was the result of the follow up?

Walter Black Industries

Prompt #1:

- Your client is Walter Black Industries, a privately owned chemical manufacturing company based in Albuquerque, New Mexico that specializes in producing car wash chemicals. The client has two major products, Car Wash A and Truck Wash A. After a series of aggressive acquisitions 5 years ago, the client has become a market leader, but revenue growth has become stagnant in the last 2 years. The client would like us to identify opportunities to increase revenue by 30% without reducing profit margins.

Interviewer Guidance:

Given the prompt, the candidate should focus on revenue first and cost only if it lowers profit margins. The candidate should develop a MECE framework that considers the different drivers of revenue and brainstorm case specific ideas in growing revenue.

The following information can be provided only if requested.

- The client made $1B (60% from Car Wash A. 40% from Truck Wash A) in revenue last year with a profit margin of 40%. The client would like to keep overall profit margins across all products at or above 40%
- The client only sells chemicals. The customer pays for all distribution and packaging costs

Additional client information is available on the following page.

Walter Black Industries

Interviewer Guidance Continued:

Provide the additional information only if requested:

Industry

- The car and truck wash chemicals industry has been growing by 2% on average over the last 10 years. It is difficult for both the customer and end customer of the product to differentiate between product quality.

Client

- The client currently has no new products in the pipeline. Formulations for new products take 5 years to develop and have a high chance to failure (85%).
- The client only sells to chemical wholesale distributors. The client sells to the top 5 wholesale distributors who control 95% of the global market share.

Competitive Dynamics

- Capital costs are high and there are no concerns over new market entrants.
- There are three main competitors for the client. Along with the client, these four companies control 90% of the entire market.
- No potential acquisition targets are available.

Once the candidate begins asking questions regarding market share and/or competitors, provide Exhibit 1 and go to Prompt #2.

Exhibit #1

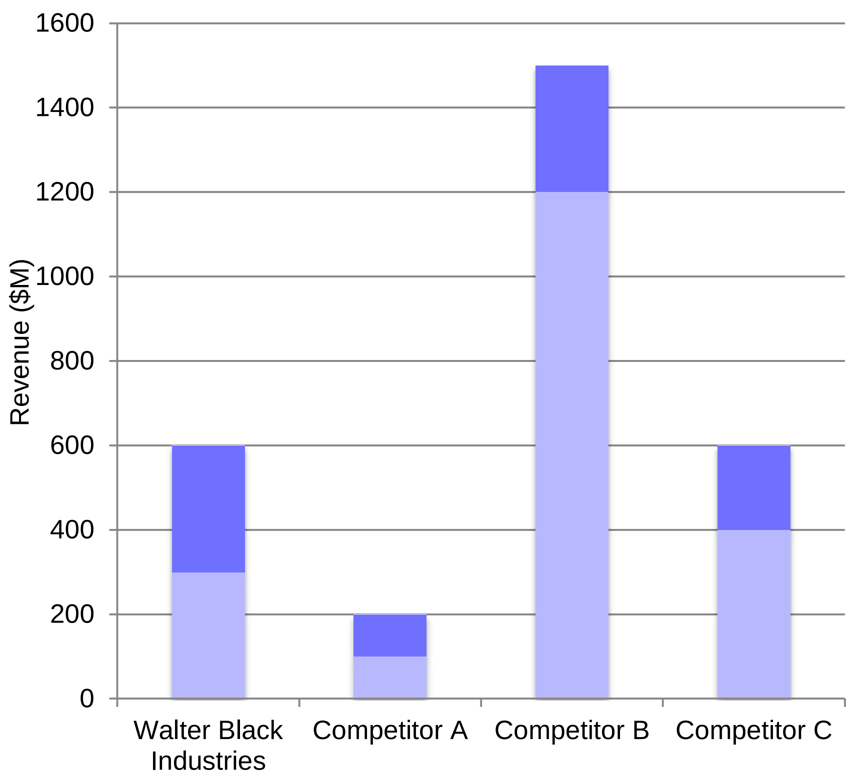
DUKE
THE FUQUA SCHOOL OF BUSINESS

Competitive Benchmarking

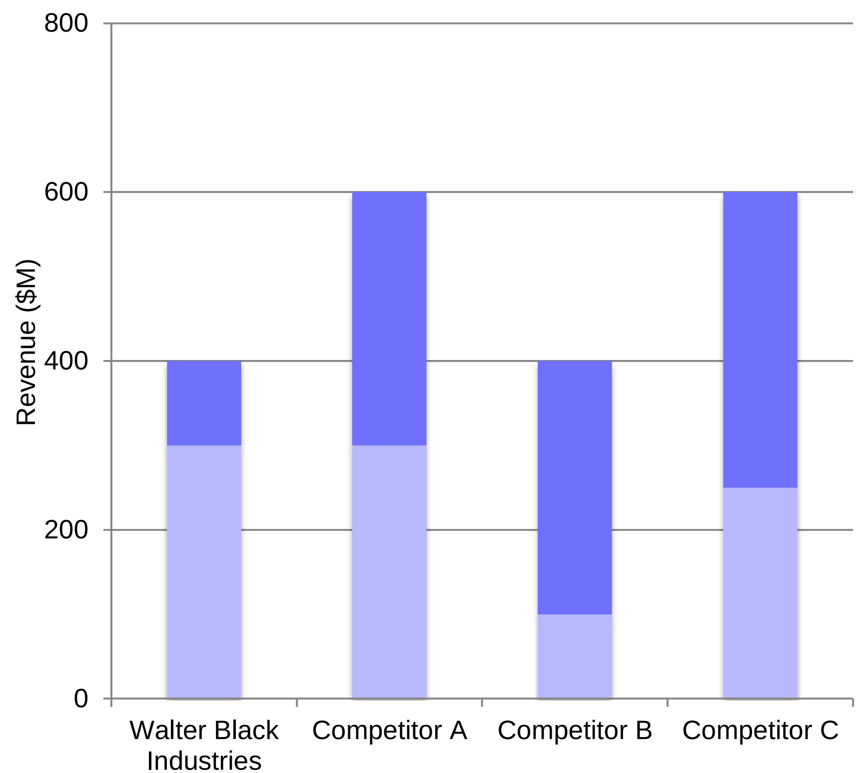
Profit

Cost

Car Wash Chemicals



Truck Wash Chemicals



Interviewer guidance on Exhibits

Prompt #2:

The team has performed a competitive analysis for the client's products and reviewed the company's financial performance against its top three competitors. What are some insights you can derive from this data?

- The cost component of the exhibit is meant to distract the candidate to think about cost reduction instead of revenue growth. If the candidate goes off track, <u>tell them that costs are similar among competitors and guide the candidate into thinking about other aspects that impact profit margin beyond the product cost</u>
- Because the graphs reflects revenue, only the dollar market share can be derived from the charts, not unit market share

Exhibit #1 Guidance:

Potential Insights:

- The client has a 20% market share in the car wash category and has significantly higher margins than its competitors. The competitor with the highest total revenue also has the lowest margins
- The client has a 20% market share of the truck wash category has significantly lower margins than its competitors.
- The revenue potential in the car wash industry is roughly 50% larger the size of the truck wash industry

Once the candidate identifies that pricing is a potential mechanism to increase revenue, provide Exhibit #2 and go to Prompt #3.

Exhibit #2

Pricing Analysis

Product	$/Gal	Cost per Tote	Average Annual # of Totes Sold	Average Annual Revenue ($M)
Car Wash A	$10	$1000	300,000	$600
Truck Wash A	$2	$300	1,000,000	$400

Walter Black Industries

Prompt #3:

The client agrees that they need to re-examine their pricing strategy and provided us with the following information:

Provide the following information to the candidate

- The client only sells chemicals on a $/gal basis. The customer provides 200 gallon totes for the client to fill with the product and pays for all distribution/packaging costs
- The client's customers prefer simplicity, and the client can only change $/gal prices in $1 increments
- Market analysis has been performed regarding the elasticity of demand from customers (The candidate can assume a linear correlation)
  - Car Wash A: $1 change in price per gallon changes demand by 50,000 totes
  - Truck Wash A: $1 change in price per gallon changes demand by 100,000 totes

Based on this information, the client would like you to make a recommendation on an optimal pricing strategy.

Walter Black Industries

Exhibit #2 Guidance:

There are multiple ways to approach calculating the optimal price. The candidate will need to do the following in order to identify the optimal pricing strategy:

1. Identify the optimal pricing strategy given the information provided
2. Determine if the strategy meets the conditions of increasing revenues by 30% without reducing profit margins below 40%.

Identifying the optimal pricing strategy: The candidate can approach this in many ways. Below are two approaches to calculating the best values

Table Approach

The candidate creates a table with price and quantity to calculate the revenue opportunities for each combination. Since demand has a linear relationship with supply, the candidate should stop moving “up” or “down” the table as soon as they hit a revenue amount that is lower than the original value or the value calculated before it.

The following page shows some potential tables the candidate may build to perform this calculation. The candidate will also need to remember to multiple the price by 200 since the quantity is in 200 gallon totes.

Walter Black Industries

Exhibit #2 Guidance Continued

Car Wash A		
$/Gal	Tote Quantity (K)	Revenue ($M)
$7	450	630
$8	400	640
$9	350	630
$10	300	600
$11	250	550

Truck Wash A		
$/Gal	Tote Quantity (K)	Revenue ($M)
$1	1100	220
$2	1000	400
$3	900	540
$4	800	640
$5	700	700
$6	600	720
$7	500	700

*Note that a simply changing the price of Truck Wash A to $5, $6 or $7 will achieve both revenue and profitability goals.

Walter Black Industries

Exhibit #2 Guidance Continued

Formula Approach

The candidate can also use a formula and derivatives to determine to optimal price for each product. First, the candidate must identify the relationship between the price and quantity of each product. Then, the candidate can substitute the quantity variable with price in the revenue equation (revenue = price x quantity) and find the derivative of that function to determine the optimal price.

P = Price   Q = Quantity   R = Revenue

Product	Price/Quantity Formula	Revenue Formula	Derivative Formula	Optimal Price	Quantity from Optimal Price	Revenue ($M)
Car Wash A	Q = 800 - 50P	R = 800P - 50P^2	R' = 800 - 100P	800/100 = 8	Q = 800 – 50*8 = 400	8*200*400K = 640
Truck Wash A	Q = 1200 - 100P	R = 1200P - 100P^2	R' = 1200 - 200P	1200/200 = 6	Q = 1200 – 100*6 = 600	6*200*600K = 720

The appropriate conclusion is for the candidate to identify that the optimal pricing strategy would be to decrease Car Wash A's price to $8, and increase Truck Wash A's price to $6. This will yield a revenue **increase** of $360M.

Walter Black Industries

Exhibit #2 Guidance Continued

Determine of the strategy meets the conditions: The candidate must now identify whether or not the conditions of 20% revenue growth and stable profit margins are met.

New Revenue / Old Revenue = \$1,360(M) / \$1,000(M) = 136% > 130%.

The candidate will then need to calculate the profit under the new pricing model.

Product	Revenue per Tote	Cost per Tote	Profit per Tote	Totes Sold (K)	Profit ($M)
Car Wash A	$1600	$1000	$600	400	$240
Truck Wash A	$1200	$300	$900	600	$540

Total: \$780M Profit / Revenue = \$780(M) / \$1,360(M) = ~57%

Once the candidate identifies that the goals are met through this pricing strategy, go to the recommendation prompt.

Note that there are multiple solutions to this problem as long as the candidate identifies one that increases revenue by at least \$300M and maintains 40% profitability. <u>The simplest answer, which is still a viable answer, is to increase the price of Truck Wash A to \$5, \$6, or \$7.</u>

Walter Black Industries

Recommendation

The CEO of Walter Black Industries is walking in the door and is interested in your findings.

Interviewer Guidance:

The candidate should provide a conclusion that clearly identifies the recommendation, along with the risks associated with the strategy. An excellent candidate will not summarize the process in which the conclusion was reached, but rather focus on the impact and next steps of the recommended pricing strategy.

Potential Risks

- How competitors will react (price war)
- How lowering the price of the car wash will affect brand perception

Potential Next Steps

- Coordinate with sales team to implement new pricing with customers
- Perform additional analysis on customers to see if segmenting pricing for different customers can improve revenues even more

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Candidate recognizes this is a revenue growth case and identifies pricing as a potential solution. Framework is not customized and candidate may require guidance in identifying insights in Exhibit 1 and makes many mistakes on the mathematical computations. Candidate may also focus too much on profitability and costs instead of revenue growth.
Good Candidate	Candidate recognizes this is a revenue growth case and develops an appropriately customized framework. Candidate may require some guidance in moving forward in the case and make some small mistakes in mathematical computations. Candidate identifies that pricing is a potential solution and lists appropriate risks and next steps.
Excellent Candidate	Candidate recognizes this is a revenue growth case and develops a creative and customized framework. Candidate requires minimal guidance through the case and develops insights as well as performs computations in a structured fashion. Candidate identifies that pricing is a potential solution and lists appropriate risks and next steps.

Case #20: Health Plan Integration

Quantitative level: Not applicable
Qualitative level: Medium

Behavioral Questions

Question 1:

- Tell me about a time you had to convince someone senior in the organization. What was the situation, how did you convince him/her, and what was your learning from it?

Question 2:

- What has been your best non-work accomplishment?

Health Plan Integration

Prompt: To be read aloud by the person giving the case

Mediplus is a US based health plan company that operates primarily in the US. Mediplus recently announced that it is merging with another big player in the market, Globus. Globus is also a health plan company that operates in the US, South America, and Europe. The merged entity will become the third largest health plan company in the US and will try to exploit economies of scale, increased reach, and diversified product portfolio as sources of competitive advantages in the health plan industry.

As our firm has already delivered some stellar work for both firm in the past few years, we have been engaged to help the new entity create a comprehensive integration plan. The partner on the project has a meeting with the head of the client's integration team tomorrow and he has asked your help to brainstorm a possible high level plan that he can present to the client tomorrow. The partner has given you some guidance to start your thinking and wants you to create a one page plan that you can him can brainstorm together.

The partner wants you to:

1. Look at integrating the two cultures
2. Think about the differences in business operation models of the two companies
3. Think about the broad timelines

Consider me as that partner and take me through your thinking on creating this high level plan.

Health Plan Integration

Clarifications for possible (critical) questions

The case is going to test the candidate's ability to think of both the strategic as well as the tactical aspects of integration. For the tactical aspects the candidate may need the following additional information:

1. Are both players selling similar or same products? Or What are the difference in customer base or go-to-market appoach for the companies? – *Although both the players do sell health insurance but Mediplus is strong in Medicare plans (think of this as selling government funded insurance programs to senior citizens and a few corporate clients) company whereas Globus is a strong Preferred Provider Organization plans (think of this as selling insurance to all people but restricting them to a network of preferred providers (doctors, hospitals, pharmacies etc.). Hence, the merger will give access to newer customers and provide opportunities for cross-selling. – This should feed in as the vision of the entity*
2. Has the client given us some specific timelines? – *The client is looking at a 2 year integration plan*
3. Was there anything that came out as a priority concern in due diligence? – *The differences between the technologies used was an area of concern. While Globus has all new internal systems Mediplus is still struggling with legacy systems that need an upgrade.*
4. Is there any difference in size or in geographic locations of the two companies? – *Globus currently is 1.5 times as big as Mediplus and has a strong structured culture compared to Mediplus that has a culture like a startup. The two companies have decided to have two product headquarters and are not looking at shutting or moving any office for the next 2 years.*

Health Plan Integration

Recommended Human Capital Frameworks

- An integration case like this can be approached through three Human Capital frameworks
  - Lifecycle framework

  The solution is shown as a series of next steps, with appropriate level of detailing, that need to be achieved over a defined period of time. Can look like a gnatt chart

  - Work Streams framework

  The solution is given by going deeper into all the work streams

  - People – Process – Technology framework

  The activities are divided by the areas of impact. For example People header has all the activities that will have an effect on people.

Health Plan Integration

Lifecycle

Integration Plan	Month 1-6	Month 7-12	Month 13-18	Month 19-24
Activity 1				
Activity 2				
Activity 3				
Activity 4				
Activity 5				
…				

- Create a shared vision
- Align leadership
- Create new organization structure / decision rights
- Assess talent
- Align benefits (Pay and policies)
- Align systems
- Look at synergies

- Customized communications through change leaders – This runs throughout the entire lifecycle

Work Streams

Talent Management	HR Operations	Recruitment
➢…	➢…	➢…
➢…	➢…	➢…
➢…	➢…	➢…
Culture	Rewards	Organization Design
➢…	➢…	➢…
➢…	➢…	➢…
➢…	➢…	➢…

- Talent Acquisition
- Talent Management
- Organization Design
- Culture
- Rewards
- HR Operations
- Talent Development
- Internal communications

People-Process-Technology

People	Process	Technology
Core Objectives	Performance Management	SAP vs. Oracle
…	…	…
…	…	…
Organization Design	Process Design	Outsourcing
…	…	…
…	…	…

People
- ➢ Core Objectives
  - Shared Vision
  - Stakeholder Alignment
- ➢ Organization Design
  - Ideal structure
  - Talent Assessment

Process
- ➢ Performance Management
  - Rating scale
  - Timelines
- ➢ Process Design
  - Hand-offs
  - Synergies

Technology
- ➢ Systems (SAP vs. Oracle)
  - Assess
  - Customize and align
- ➢ Outsourcing
  - Design
  - Implement & Manage

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Creates a structured framework Answers some of the probing questions
Good Candidate	Creates a comprehensive framework Answers all the probing questions
Excellent Candidate	Creates a comprehensive framework Answers all probing questions Lists down the risks and next steps

Case #21: A mobile telecom company in UK

Quantitative level: Medium
Qualitative level: Medium

Behavioral Questions

DUKE THE FUQUA SCHOOL OF BUSINESS

Question 1:

- **Why are you pursuing your career at Bain? (Potential answers below)**
  - Had a clear understanding of what it would be like to work with other Bain people through discussions with current employees
  - True North
  - Global one team
  - Work hard play hard culture (match with Fuqua's culture)

Question 2:

- **Provide an example about working with diverse team**

UK telecom company in 2006

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #1:

- In 2006, a UK mobile telecom company (Company A) tried to build a relationship with a fixed line telecom operator (Company B) to provide their customers with 3G broadband data service (at that time, 3G was not common).
- What types of partnership structures should they consider? List pros and cons as well as other factors that would determine optimal partnership structures.
- What would you need to know to select the ideal partnership? Considering this situation, what kind of partnership do you think would be the best?

Interviewer Guidance:

- The goal of this case is to reach the best kind of partnership between company A, considering M&A (company or business), joint venture arrangements (JV) and business alliances.
- Drive the candidate to list the pros and cons of each relationship (1-2 mins)
- (1) M&A: pros-> more control / cons-> not flexible, need strict due diligence, high cost, some overlap of business and backend function
  (2) JV: pros -> can combine each strength to create "specific" new business / cons-> if the scope of business if there is a lot of room for synergy, JV might not be preferable.
  (3) Business alliance: pros -> flexible and can pay fee only per usage / cons -> difficult to control the partner (special arrangement for customized service etc)

UK telecom company in 2006

Interviewer Guidance:

- After they list pros and cons of the different types of relationships (examples in the last page), probe them to ask specific questions about Company A and B, and ask for background information.

- Questions that may be asked (examples):
  - Can Company A develop 3G technology using their own R&D? What are the challenges?
  - The attractiveness of company B's 3G technology. Any patent? Any competitors?
  - Any synergies Company A can expect beyond just implementing their 3G technology after the partnership?
  - The geographical area of the business for Company A and B
  - The demands for 3G mobile broadband data service. Is it growing? New trends? Likely to be sustainable?

- After the interviewee discusses questions above, you can tell the interviewee that the scope of the partnership with Company B is not going to be beyond the usage of their 3G technology.

- Since Company A cannot pursue synergies beyond the initial 3G use, a business alliance is preferable. Company A can start with a business alliance by paying the usage fee and if additional synergies arise, other options can be considered later.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	- Can speak about general pros and cons of different partnership structures - Provides some ideas to determine which partnership form may be best
Good Candidate	- Complete all “average candidate” requirements - Does not need much assistance from the interviewer - Aggressively thinks out of the box, considers long term business needs and strategy
Excellent Candidate	- Completes all “good candidate” requirements - Provides more ideas from broader perspective to determine which form of partnership is best (i.e. synergy arising from overlapping business and geographical areas is important when considering M&A; legal considerations of JVs, etc.)

UK telecom company in 2006

Prompt #2:

- It was recently discovered that Company C, the competitor of Company A, is going to begin providing 3G broadband mobile service for free for its existing customers. If Company A starts providing a similar service, the initial cost (CAPEX) will be $1,080M. Company A would like to recover this investment within 3 years.
- Company A's monthly cost per customer with the new service will increase by $5, from $15 to $20. Current monthly fee per customer is $40 and they have 10M customers.
- Should Company A start the similar service as Company B's?

Interviewer Guidance:

- This question is basically asking (1) how many additional customers you need to acquire to recover the cost and (2) if it looks realistic
- If X is additional customers and Company A need to recover the initial cost in three years, you can come up with the following equation
  ($40-$15 : current profit per customer/month) *12 (months) * 3(years) * 10M
  = ($40-$20) * 12 months * 3 (years) * (10M+X) - $1,080M -> X=4M
- To see if it is realistic to earn 4M (40% more) additional customers by starting 3G service for free, the interviewer will require additional information, including:
  - The current market share of Company A
  - The market growth rate of mobile telecom business
  - The importance of 3G service for customers

UK telecom company in 2006

DUKE THE FUQUA SCHOOL OF BUSINESS

Interviewer Guidance – additional information to be given

- Company A has 35% market share and is the 2nd largest player.
- The largest player's market share is 40%.
- Market growth rate of mobile telecommunication in UK is 2%.

- Is it realistic to assume Company A can increase their customers to pay back capex in 3 years?
- *Interviewer can answer yes or no but must have sufficient evidence; push back on interviewers answering yes to consider what they would need to believe. Most interviewers should arrive at a "no" answer:*
- Support for NO:
  - Acquiring 40% more customers in 3 years would require about 10% more customers per year, which is far beyond the market growth rate of 2%
  - Because Company C already started the free 3G service, Company A should rather consider another way to differentiate themselves from Company C (maybe combination of 3G service and other data contents service at some cost).

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	- Structure the equation to come up with additional number of customers Company A needs to acquire with some guidance - Ask questions to decide if it is feasible to acquire 4M additional customers
Good Candidate	- Complete all “average candidate” requirements - Does not need much assistance from the interviewer - Ask some good questions to decide if it is feasible to acquire 4M additional customers and reasons why
Excellent Candidate	- Completes all “Good Candidate” requirements - Support the reasons why Company A should/should not start free 3G service with both quantitative (Comparing the necessary growth rate v.s. market growth rate) and qualitative thoughts (2nd largest player, which area they should play and so forth)

Case #22: 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

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 should approximate using the graph. 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 savings are too far out for an activist investor. Regardless of the NPV, this project should be secondary to a short-term strategy.

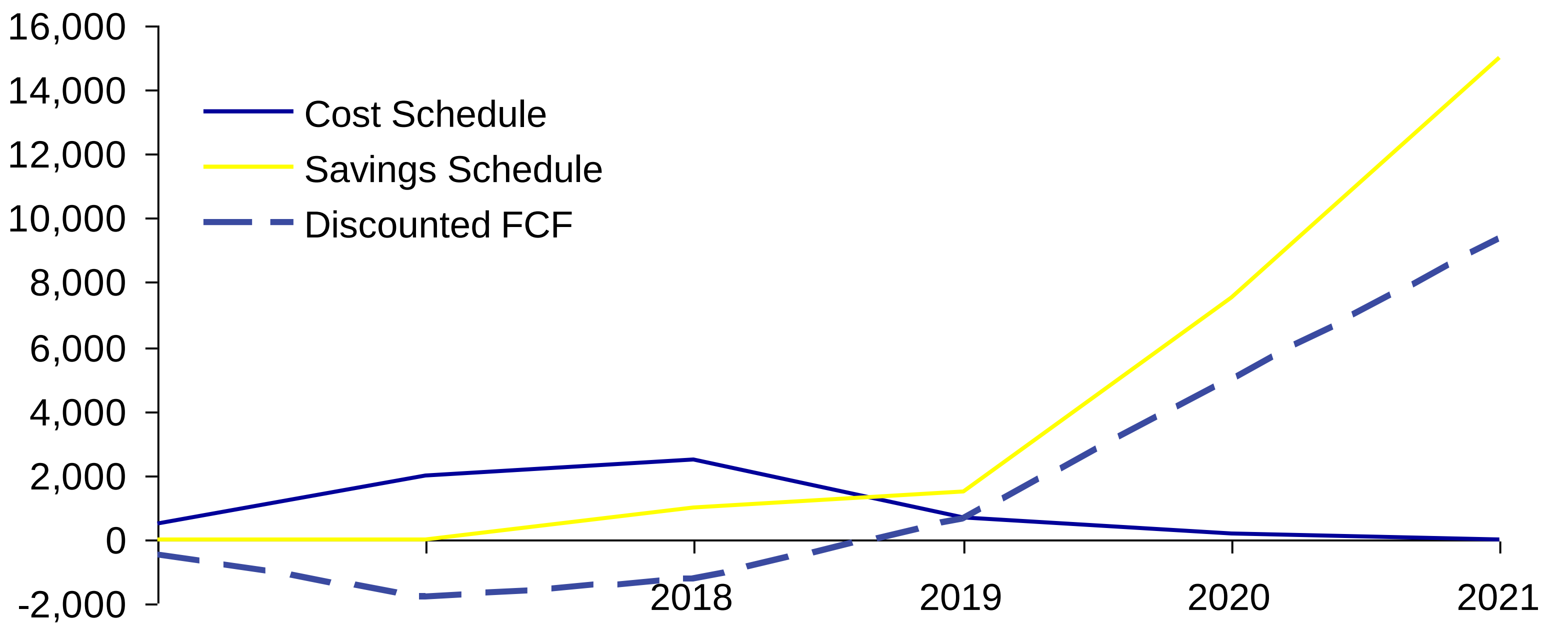
Once this option is deemed insufficient read Prompt 2.

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).

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.)

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.

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

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

Case #23 Surfboard Wax (provided by Accenture)

Accenture: Surfboard Wax

Prompt #1:

Your client, Big Island surfboards is a surfboard manufacturer based in Hawaii. The CEO wants to expand the company's product line and revenues and is thinking of entering the market for surfboard wax. It hired you to calculate the market size for wax, and your firm determined that the market size for surfboard wax is about $6m a year with about 3 million bars sold annually. Your firm also found that the market was fairly competitive with three large global players all based outside of Hawaii controlling about 70% of the market smaller niche companies including a few based in Hawaii accounting for the remaining 30%.

The client was impressed with our work and believes that its unique brand and connection to Hawaii will it enable it to succeed in capturing a piece of the pie. It wants to move forward with entering the market and has now asked us to determine how they should enter the market for surfboard wax. How would you think about this problem?

Interviewer Guidance:

The candidate should recognize that this is a market entry case and confirm this with the interviewer. If the candidate asks what surfboard wax is, you can tell them that the wax comes in a bar form (similar to soap) and is used to coat the top of the surfboard in order to provide surfers with a surface that their feet can grip.

The Framework:

A strong candidate's framework should list several options for entering the market: 1) building the capability to manufacture the wax by itself, 2) acquiring another company that manufacturers wax, 3) partnering with another company in a joint venture, 4) contracting out production and then reselling or 5) licensing its brand to another company. The candidate will then link these options to a profitability tree to estimate whether the company can earn a return on its investment.

The candidate's profitability tree should have:

1)Price: Candidate should show that the average price obtained by calculating $6 million/3 million bars sold = $2; or some number around this that is justified. The candidate can also make the case that by leveraging our client's name in surfboards, we can command a higher price ($3 because it is brand name and can command a premium, etc.)

Accenture: Surfboard Wax

Interviewer Guidance:

2) Quantity: A savvy candidate will recognize that quantity will hinge upon the strategy pursued. If the candidate discusses organic growth within the framework, the candidate should recognize that this is likely a competitive market and estimate a reasonable market share that company can obtain. Reasonable estimates range from 5%-15% which translates into 150,000 to 450,000 bars sold. (Note: calculations do not need to be in the framework; this is guidance to measure how a candidate might think about this.)

3) Variable costs: Candidate should list out some of the components of variable cost such as materials (wax, scent, etc.) (Note: Candidate is not expected to know materials in wax but a strong candidate will list a few to demonstrate that he/she is thinking about how to calculate costs), packaging and shipping costs. In the case of a contract arrangement, it is assumed that variable costs are absorbed by the contractor who will then charge the company a price per unit.

4) Fixed costs: Candidate should some costs such as rent, labor, SG&A, and marketing costs in order to generate sales. (Note: the candidate should not list “costs” related to any of the options such as acquiring PPE or another company as these are fixed assets rather than fixed costs.)

After the candidate has reviewed their framework with you, ask them to discuss qualitatively the potential up and downside of each of the options. If the candidate is missing more than two of these options, push the candidate to think about additional market entry strategies before you begin this discussion. It is critical that they identify at the very least, acquiring another company and contracting out production. If they are unable to come up with both of these scenarios, you can offer it to them as a suggestion.

A strong candidate will be able to succinctly articulate the costs and potential rewards associated with each option and drive the client towards exploring an option with a hypothesis lead approach. An example might look something like: “Option 1 would involve significant investment in R&D and manufacturing capabilities but could earn the company the greatest return, Option 2 would be costly and logistically complicated but gives the company access to an established product line and distribution channels, Option 3 would spread cost and risk to two companies but would tie the company up with a partner in a potentially costly and complicated venture, Option 4 would enable quick production but would open up the company to risk should its contractor be unable or unwilling to meet demand in the future and Option 5 would provide the company with a steady revenue stream but place control of its brand into another company’s hands. Based upon my reading of the data, I recommend that we start with Option 5 as it seems to be the lowest risk

After the candidate has discussed the pros and cons of each option, go to the next prompt.

Accenture: Surfboard Wax

Prompt #2:

Upon reviewing the options, the client decides that organic growth and a joint venture is too complicated and doesn't feel comfortable taking the risk associated with building such capabilities. Additionally, the client doesn't't' feel comfortable licensing out its brand name because it wants control over how the product is marketed and sold. The CEO is interested in either acquiring a company or contracting out production. It has identified a candidate for each of these and wants us to perform some due diligence on whether it can earn a return on its investment within 5 years. The candidate doesn't need to worry about discounting.

Acquisition:

Information to be shared with the candidate: The company it wants to acquire, Aloha Surf Wax sells its bars for $2.50 a piece to retailers who then retail it for $3. Its cost of goods sold is $.50 and annual fixed costs for things like marketing, sales, SG&A is $300,000 a year. The company's product is popular and it has 10% of the total market in Hawaii. The owner wants to sell the company and has set a firm price of $1 million.

Interviewer Guidance:

The candidate should calculate:

Annual revenue: $750k (10% x 3m x $2.50)

COGS: $150k (10% x 3m x$.50)

SG&A: $300k

Total Annual Profit: $300k

After 5 years, the company would earn $300k x 5 = $1.5 m - $1m price = $500k

Accenture: Surfboard Wax

Prompt #3:

Contracting Out Production:

The client has identified another wax manufacturer, Maui Surf Wax, that has agreed to use its excess capacity to produce 300k bars a year. Maui wax will charge our client, $1.50 a bar. Our client projects that it can then sell to its retailers for $3.00 a bar and sell out of its entire inventory. Maui wax will also charge our client a one time fee of $100k to reconfigure its equipment to produce our clients packaging and reformulate its wax to our clients specifications. Additionally, annual fixed costs for things like marketing, sales, SG&A is $300,000 a year.

Interviewer Guidance:

The candidate should calculate:

Revenue: 300k x $3.00 = $900k

COGS: 300k x $1.50 = $450k

SG&A: $300k

Total Annual Profit: $150k

After 5 years, the company would earn $150k x 5 -$100k = $650k

Accenture: Surfboard Wax

Recommendation

After the candidate has finished his/her calculations, prompt them to provide a recommendation to the CEO.

Interviewer Guidance:

A strong candidate will start with the recommendation, support with analysis and end with next steps. An example of this might look something like:

I recommend that Big Island Surfboards enter the market for surfboards by contracting production of wax out to Maui Surf Wax and reselling the product under Big Island Surfboards' brand. By doing so, Big Island Surfboards would earn a $650k return on its initial investment of $100k after 5 years. This would enable Big Island Surfboards to quickly enter the market and ramp up production. Some risks of this approach include Maui Surf wax reducing excess capacity devoted to production of Big Island Surfboard wax in the future or having quality control issues with production.

As the next step, I would recommend that we conduct due diligence on other potential targets to see if we can get an even better deal or explore some of the other options that the CEO had initially ruled out.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Lists some basic market entry strategies with some prompting and offers a basic profitability tree. Is able to calculate the numbers with one or two errors and offers a recommendation.
Good Candidate	Identifies most of the market entry strategies and is able to discuss them with some prompting. Profitability tree shows some complexity. Is able to calculate the numbers correctly and offers a recommendation.
Excellent Candidate	Identifies all of the market entry strategies and is able to discuss them in some detail. Profitability tree shows complexity and nuance depending on the market entry strategy. Drives the case with little prompting. Is able to calculate the numbers correctly and offers a qualified recommendation supported by analysis and next steps.

Case #24: Mobilizing Your World (provided by Accenture)

Accenture: Mobilizing Your World

Prompt #1:

Your client, Phone Com is a telecommunications company. The company has high brand recognition only in the United States and has grown primarily through a series of acquisitions over the last thirty years. Less than a month ago, the CEO announced another acquisition of a large satellite television company. The target company, Sat-Light Inc., is stable but slow growing . In order to make this merger valuable, the CEO has asked your team to identify 1) synergies from the merger, 2) ideas for differentiated product offerings and 3) opportunities for new growth.

Interviewer Guidance:

The candidate should ask immediately what products are currently offered by both companies. Note: Prior to the Sat-Light offers television and broadband through a third party. Phone Com offers mobility, broadband and television.

A strong candidate may also ask if we are just focused on the US. You should answer that we are focused on North and South America and Phone Com. has limited distribution in South America and Sat-Light has new distribution in South America.

The Framework:

The first level of framework is simple. It should be separated into the three different areas outlined in the prompt. A good candidate's framework will not include anything about profitability. The framework should indicate a strong understanding of the industry through answers given.

For synergies acceptable answers are as follows (note I have highlighted if they are easy, medium or hard conclusions after each item in parentheses); personnel (easy), content (hard), supply chain (medium), ad sales (hard), IT systems (easy), bundling (easy) & collections (hard). A strong candidate will have highlighted that synergies are both cost reduction and revenue building and provide some examples for each item listed.

Accenture: Mobilizing Your World

DUKE THE FUQUA SCHOOL OF BUSINESS

Interviewer Guidance:

For differentiated product, this is an opportunity for candidates to demonstrate their brainstorming under pressure. A strong candidate will offer at least three ideas but he/she is unable to, you can guide them by suggesting a few ideas such as a television everywhere enhancement or an app the that streams DVR’d content to your phone. Note: there is no wrong answer for this section.

For growth strategy a good candidate should include some initial suggestions:

1) South America distribution
2) Bundling
3) Channel optimization (new distribution within US)
4) Other commercial opportunities

Accenture: Mobilizing Your World

Prompt #2:

Based upon your initial brainstorm, the CEO wants to focus on television and what the opportunity for expansion is. That is, he wants to know of any households not currently being served by Phone Com, Sat-Light, or its competitors. His office has provided you with the following data: Sat-Light serves 30 million US households and Phone Com serves 10 million US households. Sat-Light has a national footprint while Phone Com is only available in certain area due to infrastructure restrictions. The industry has two other big competitors and one smaller competitor. The first competitor serves15 million US households, the second competitor serves 32 million US households and the third competitor serves 7 million US households. All of the customers are unique and do not overlap among the companies.

Interviewer Guidance:

A strong candidate should be able to do a fairly quick market sizing:

~320 individuals in the US

~3 individuals per household

=~107 households. 107 – (10+30+15+32+7) = 13 million households.

The candidate should realize the US industry is extremely saturated. The additional number of households may be cord cutters, unable to access TV for a number of technology reasons or also unable to afford TV. Therefore, opportunity for growth is extremely limited.

Prompt #3:

After presenting the findings of your analysis and that opportunity for expansion of television is limited in the U.S., the CEO wants to know of other growth opportunities. The CEO wants to review your initial suggestions in your framework for growth strategy and wants you to discuss opportunities and risks to associated with each of those growth opportunities.

Interviewer Guidance:

Few examples include:

1) South America Expansion – It is a completely segmented market with a lot of opportunity. Risks/Things to Think About: corrupt government, each country operates differently, technology capabilities are far behind the US and limited current infrastructure (aka a lot of investment).

2) Bundles – With a new reduced pricing structure and one combined bill, customers will be interested in a bundle. Risks/Things to Think About: Differentiate the bundle from competitors, IT upgrades to develop combined bill, installation infrastructure (are the same techs able to install two different products).

3) Commercial – It is important for a candidate to realize the households are only a portion of the market. There is an opportunity to sell to businesses. Risks/Things to Think About: Sales Strategy, Resources Needed, Differentiated Product for Commercial, Differentiated Pricing Package for Commercial

Accenture: Mobilizing Your World

Recommendation

After discussing growth strategy, the CEO wants you to provide an overall summary and recommendation.

Interviewer Guidance:

A strong candidate will start with the recommendation, support with analysis and end with next steps. An example of this might look something like:

"At the CEO's request, we've identified the potential synergies, a new differentiated product and opportunities for growth. The strongest potential cost optimization synergies are personnel reductions, supply chain, IT systems and content contracts, however, it is important to note there are revenue generating synergies as well such as advertising sales. The differentiated product we recommend is XXXX as it optimizes the combination between mobility and televisions. We also realized after reviewing the case in more detail that there is limited growth opportunity to expand in the US, however, we recommend the new company look into opportunities in South America and commercial sales. Before moving forward, we recommend 1) a deeper understanding of current technology related to mobility and television in South America & 2) more information on market share in the commercial segment.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Candidate asks a questions, however, the questions asked do not help progress the case. Framework is appropriately customized and has creative & case specific responses to all three different pieces of the framework. Candidate may need guidance on moving forward in the case and may make some mistakes on growth opportunities. The candidate will miss most industry insights.
Good Candidate	Candidate asks clarifying questions at the beginning of the prompt (but not too many) and does not get overwhelmed by all the different strategy pieces / stuck on the framework. Framework is appropriately customized and has creative & case specific responses to all three different pieces of the framework. Candidate may need some guidance on moving forward in the case and may make small mistakes on mathematical computations. The candidate may miss a few of the industry insights.
Excellent Candidate	Candidate asks clarifying questions at the beginning of the prompt (but not too many) and does not get overwhelmed by all the different strategy pieces / stuck on the framework. Framework is appropriately customized and has creative & case specific responses to all three different pieces of the framework. Candidate drives case and can make conclusions on their own through their understanding of the industry. They also come up with 2nd level insights as they walk you through the case.

Bumbardia

Quantitative level: Easy
Qualitative level: Easy

Behavioral Questions

DUKE THE FUQUA SCHOOL OF BUSINESS

Question 1:

- Tell me about a time you faced a challenge. What did you do to overcome that challenge?

Question 2:

- What is your greatest professional weakness?

Bumbardia

Prompt #1:

- Your client Bumbardia is a Canadian train and aircraft manufacturer. Its aircraft division focuses on regional and business jets. Lately, Bumbardia's Z-series aircraft, its largest jet, has a number of problems including cost overruns, delays, and mechanical issues. Investors are losing confidence in the company, as its stock price has declined almost 70% within the past year, and as its credit ratings have fallen. A large number of orders of the Z-series that are scheduled to be fulfilled in the next 3 years, are at risk of cancellations and further delays. What should Bumbardia consider and do to change the direction of the company, and increase investor confidence?

Interviewer Guidance:

Additional Information if asked by candidate:

- Aircraft revenue makes up more than 80% of Bumbardia's revenue.
- Although Bumbardia has other aircraft types, the Z-series is the costliest of their aircraft, as well as the type with the greatest number of orders.
- Bumbardia competes with major aircraft manufacturers, such as Boeing and Airbus, and sells their aircraft to airlines around the world.

Possible responses or areas that the candidate could consider:

- Market environment: Demand for Bumbardia aircraft, air travel; competitor production trends and market share; risk of customers cancelling Bumbardia orders for competitors
- Bumbardia operations: What is leading to delays and cost overruns? Mechanical issues, supplier issues, distribution inefficiencies, employee productivity?
- Turnaround strategies: Marketing (e.g. Paris Air Show), discounts to customers to build loyalty, spin-off train division to raise capital, ask for loan/subsidy from Canadian government.

Bumbardia

Exhibit #1 Guidance:

To understand the significance of Bumbardia's issues with the Z-series, Bumbardia needs to consider which of their customers are at high risk for cancellation.

Hand Exhibit #1 to the candidate, and ask the candidate the following questions.

- What do you observe from the following exhibit?
- What percent of the orders are at high risk of cancellation?

The candidate should drive towards the significance of this. If not, ask the candidate for the implications.

Potential Responses:

- The candidate should note that 78 aircraft or 40% of total deliveries received the highest risk rating due to geopolitical or financial uncertainty.
- The candidate should point to the potential worst-case scenario of Bumbardia ending up with an accumulation of planes from cancelled orders.

Exhibit #1

Bumbardia's Z-Series Deliveries

COMPANY	2016	2017	2018	TOTAL	RISK FACTOR
Air Baltic	4	6	2	12	No risk
Falcon		1	1	2	No risk
Gulf Air			6	6	Mid: Region risk
Ilyushin Finance		5	17	22	High: Country risk
Iraqi Air	3	2		5	High: Country risk
Korean Air	2	6	1	9	No risk
LCI			1	1	Mid: Shifting emphasis to helicopters
Macquarie		13	15	28	No risk
Malmo		4	3	7	Mid: Losses
Odyssey	3	1	2	6	High: Crowd funding
PrivatAir	3	2		5	No risk
Republic	6	15	14	35	High: Changing business plan
Saudi	3	11	2	16	Mid: Start-up
Swiss	11	9	10	30	No risk
UT Air (IFC)		2	3	5	High: Country risk
VIM (IFC)	1	2	2	5	High: Country risk

Bumbardia

Prompt #2:

- Anticipating the possibility that “high risk” aircraft orders will be cancelled due to production delays, what can Bumbardia do?

Interviewer Guidance:

This is a brainstorming exercise for the candidate. In addition to noting the potential strategies, a strong candidate should also consider the implications of those strategies. Possible responses include the following.

- Cease manufacturing aircraft that are “high risk.”
  - Implication: Loss of desperately needed revenue. But with fewer aircraft to manufacturer, there’s a possibility of reducing the delay on other orders
- Reaffirm orders with high risk customers.
  - Gain confidence in orders from high risk customers
- Provide discounts to airlines with orders
  - Loss of revenue. Discounts may not be enough to convince airlines to maintain their orders. This may incentivize airlines to bargain the price downward
- Find other airlines or entities that could be potential customers for Z-series aircraft
- Invest in R&D to modify or enhance Z-series to make the aircraft more attractive to airlines
  - Bumbardia already has too high of debt to equity ratio. This could lead to further delays with existing customers.

Bumbardia

Recommendation

- The CEO of Bumbardia is about to enter the room to learn your recommendations. Please prepare your findings and conclusions for him.

Interviewer Guidance:

- The candidate should succinctly state the problem that the client is facing, and provide strategies and potential risks to those strategies. Examples of strategies and risks are below:
  - To boost investor confidence and turn Bumbardia around, the company should find a way to reduce the risk of cancellations for the Z-series aircraft. In the short term, Bumbardia could appeal to the Canadian government for additional funding, and try to boost customer loyalty to reduce the risk of cancellation. However, Bumbardia should also determine the root cause of the delay to find a way to expedite production.
  - In continuing to invest in the Z-series to turn the company around, there is a risk of further delays and cost overruns, which could lead to bankruptcy. However, by not following through on existing orders, Bumbardia would be risking its credibility as the leading aircraft manufacturer in Canada. This could lead to a loss of loyalty of customers, and further issues in the long run.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	Profit analysis framework, does not bring in industry trends, or competitive analysis; completes math slowly with minimal mistakes may require reminder for breakeven equation, brainstorms many ideas but does not offer any structure
Good Candidate	Offers complete framework, brainstorms are structured and MECE, recognizes and correctly applies breakeven formula, uses framework to support recommendations and math conclusions
Excellent Candidate	Offers complete framework, creative and structured brainstorm that is specific to t-shirts, recommendations and math conclusions supported by logical, sound business reasoning, breakeven formula applied correctly; math is organized and quickly performed

Fun with FinTeck

Quantitative level: Medium
Qualitative level: Medium

Behavioral Questions

Question 1:

- What is your greatest weakness and how are you working to improve this area?

After they answer this, ask for another weakness.

Question 2:

- Tell me about a time you dropped the ball?

Case Title

Prompt #1:

Your client is a large global bank, Bank of FinTeck, and in 2012 it generated $30 Billion in revenue, ranking 3rd among global banks. However, now in 2015, the bank's revenue has remained stagnant over the last 3 years, and seen it's reputation deteriorate. What should this bank do to inject growth into the business, and avoid declining year over year revenues?

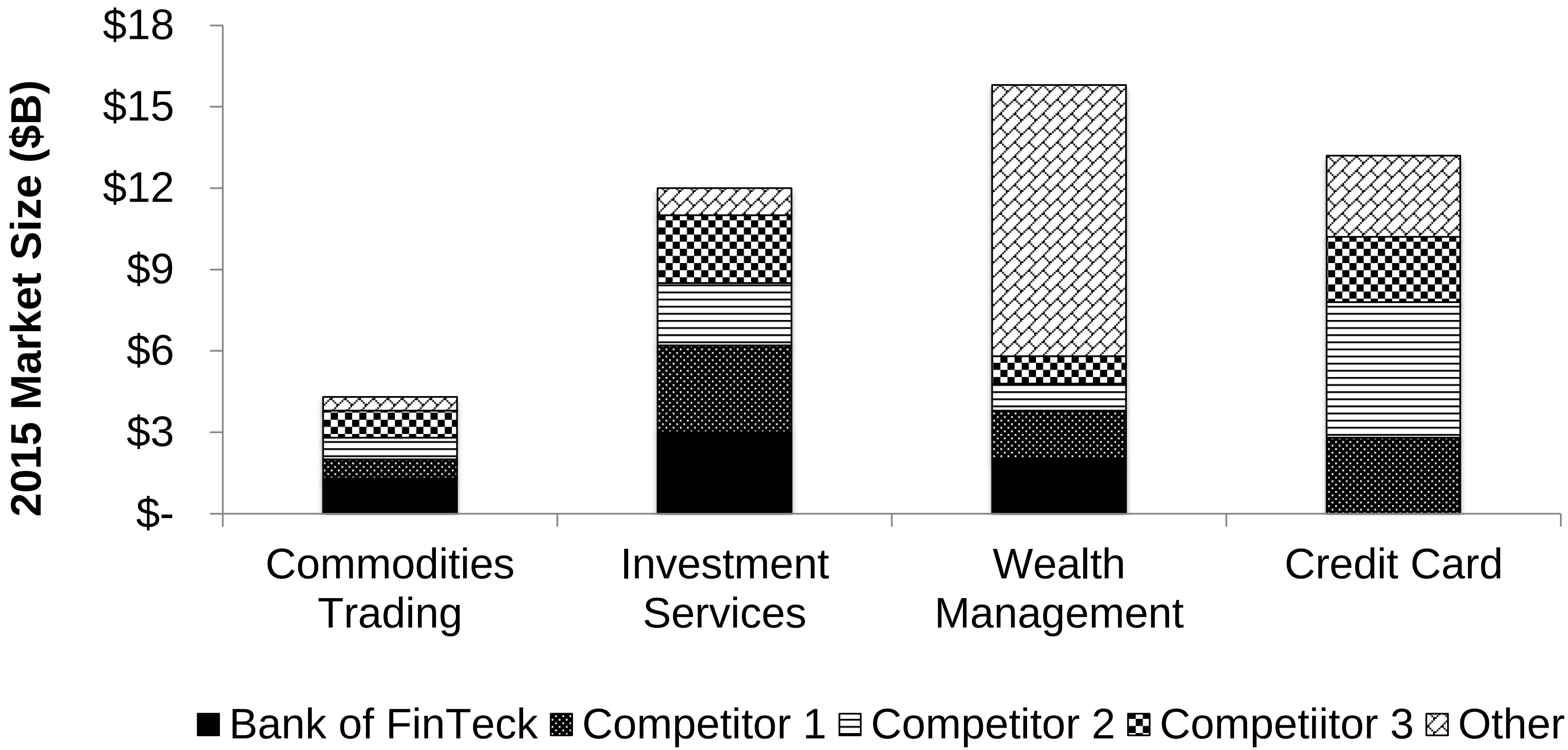
Interviewer Guidance:

The candidate should develop a framework that captures industry trends, while demonstrating a basic understanding of the different businesses within banks, and specifically Bank of FinTeck's:

- The candidate should identify that the client has a revenue problem. If asked, state that the client is looking for 5% revenue growth in 3 years, in aggregate.
- A good candidate's framework will address revenue drivers (price x quantity) such as products, services, fees to customers, industry trends, competition, etc.
- A good candidate will also discuss specific banking industry trends such as complying with new regulation and potential disrupting technologies.
- A great candidate will ask what businesses the bank operates in, to which you can answer that its core business units are its retail, commercial, investment bank products and services.

The candidate should drive to focus on the bank's products and services. Let them brainstorm some options before showing them the first exhibit.

Exhibit #1



2015 Market Size ($B)
$18
$15
$12
$9
$6
$3
$-
Commodities Trading
Investment Services
Wealth Management
Credit Card
Bank of FinTeck
Competitor 1
Competitor 2
Competiitor 3
Other

Interviewer guidance on Exhibit #1

DUKE THE FUQUA SCHOOL OF BUSINESS

Exhibit #1 Guidance:

Instruct the interviewee that the client wants to look specifically at investing in one of four products/services that it believes can help it grow. The following information can be given if asked for:

- Commodities Trading generates revenue through broker fees and trade transaction fees
- Investment Services provides services across the investment lifecycle (e.g. trading, distribution of funds, clearing, settlement, and other fee based back-office services)
- Wealth Management charges a 125 bps portfolio management fee. It is a very localized industry with the most important factor being relationships.
- Credit Card provides revenue through merchant fees, issuing fees, and interest

Analysis:

This exhibit should test the interviewee's ability to do a quick quantitative analysis to identify a target product/service to invest in as a growth driver.

- Commodities Trading should be eliminated immediately given its small market size.
- Though wealth management appears to be fragmented and ripe for the taking, it should be re-iterated that wealth management is very localized and relationship driven, thus has huge barriers to entry.
- The client doesn't currently have a Credit Card business, requiring a large investment to build, making **investment services** the best option.
- A great interviewee will also note that 5% revenue growth for the company is equal to $1.5B, and relate it to the current size of each option.

Case Title

DUKE THE FUQUA SCHOOL OF BUSINESS

Prompt #2:

Bank of FinTeck's Investment Services has been operating since the company's inception. It used to be known as the premier Investment Services business, but lack of internal investment and competition has leveled the playing field in the market. What can Bank of FinTeck do to get back to it's position as the #1 investment services firm?

Interviewer Guidance:

This question is meant to test the candidates ability to brainstorm in a structured way:

- Steer away the interviewee from any kind of marketing, cross-selling, or customer growth strategies. Tell the interviewee that there is a huge demand in this space and acquiring customers is not an issue.
- Adjusting fee structures and pricing is a good thought, but now that there is significant pricing pressure from competition, this will be difficult to implement.
- Looking to create new and innovative services is a viable option, if the interviewee doesn't get there, guide him/her to think outside of current offerings

Once the interviewee exhausts all ideas, tell them that the client is looking to implement a new and innovative technology that would improve the investment services business by increasing settlement speed of their all standard and foreign exchange transactions, allowing them to process more transactions, attract more customers, and grow market share. Proceed to show them Exhibit #2.

Exhibit #2

Forecasted Revenue w/ New Technology

	2016F	2017F	2018F
Transaction Settlements (000's)	40,000,000	42,000,000	45,000,000
Settlement Fee	$0.05	$0.05	$0.05
FX Transactions (000's)	5,000,000	5,200,000	5,500,000
FX Fee	$0.30	$0.30	$0.30
Technology Capital Investment (000's)	$150,000	$10,000	$10,000
Other Costs & Overhead (000's)	$110,000	$100,000	$100,000
Profit (000's)	$3,140,000	$3,350,000	$3,590,000

Interviewer guidance on Exhibit #2

DUKE THE FUQUA SCHOOL OF BUSINESS

Exhibit #2 Guidance:

This exhibit shows the forecasted revenue if the client were to implement the new technology achieving quicker transaction settlements and FX transactions. Can the client reach their revenue target?

The interviewee should remember that the growth target is 5% over 3 years, and the current revenue the client captures can be estimated from exhibit 1.

- If they don't recognize this guide them there and let them know it can be estimated at $3 Billion.

The interviewee should also recognize that the last two data elements are costs and can be ignored.

Analysis:

The fastest way to figure out whether the client hits their target is to simply add back in the cost line items from the profit total (if they choose to do the long math, let them:

- 2016F Revenue = $3.14B + $.26B = $3.4B
- 2017F Revenue = $3.35B + $.11B = $3.46B
- 2018F Revenue = $3.59B + $.11B = $3.7B

Then determine if it meets 5% revenue growth each year:

Target = $1.5B over 3 years

Actual = $.4B + $.46B + $.7B = $1.56B

After figuring out that the forecasted total revenue, the interviewee should be able to determine that they will meet the 5% goal of $1.5B.

Case Title

Prompt #3

Given that the client will meet its goal in all three years, what do you recommend they do?

Recommendation:

This open ended recommendation should test the interviewees ability to make a decision and stick with it.

Either decision, whether to go forward with implementing the technology, or not, is an acceptable answer as it only narrowly meets their goal. But the interviewee must back up the answer and be sure to outline all risks and considerations to their decision.

Evaluation Criteria

Candidate Level	Assessment
Average Candidate	An average candidate will get through the case, but will need to be guided all the way through. They will struggle with some of the ambiguity and waiver on the final decision. They will also miss the opportunity to take a shortcut on the math.
Good Candidate	A good candidate will be MECE on framework and other more ambiguous brainstorms. They will move quickly through the exhibits noticing obvious takeaways and shortcuts on the math.
Excellent Candidate	An Excellent candidate will drive this case, which can be straight forward if they realize where it is going. They will come up with robust ideas in brainstorms, and be very decisive on their recommendation.