IESE CONSULTING CLUB

INTERNAL CASEBOOK 2023

IESE Business School
University of Navarra

TNETNOC

- INTRODUCTION TO CONSULTING
- IESE STATISTICS
- INDUSTRY KNOW HOW
- BEST PRACTICES AND TIPS
- CASES
  - BCG CASE COMPETITION CASES (3rd EDITION)
  - PREVIOUS CASEBOOK CASES

The Management Consulting Landscape

General Management Consulting

- McKinsey and Company
- Boston Consulting Group
- Bain and Company
- Kearney
- Strategy&
- Oliver Wyman
- Roland Berger
- L.E.K. Consulting
- OC&C strategy consultants
- Arthur D. Little

Industry Specific Consulting Firms

- Delta Partners (TMT)
- ZS Associates (Pharma / Healthcare)

Internal Consulting

- BASF (Chemicals)
- DHL Consulting
- AMEX Strategic Planning Group
- Disney Internal Consulting

Capability Specific Consulting Firms

- McKinsey Digital
- McKinsey Operations (within McKinsey)
- Deloitte Digital
- BCG DV

Consulting Journey

CV/CL Submissions

Interview Rounds



Career Forum

Interview Selection

Offer

Consulting Interview Process

Case interviews take very similar formats across the various consultancies where they are used. Before landing your dream role with any consulting firm, you will need to complete between four and six case interviews, divided between 2 rounds in most cases, with each interview lasting approximately 50- 60 minutes. Over the past few years, consulting firms are also increasingly using logical reasoning tests or gamified assessments as the first step of the interview process.

Typical Interview Format (Varies from firm to firm)

1. Fit Interview: 15-20 minutes
2. Case Interview: 25-35 minutes

What do the firms look for?

"While there's no exact template for success at McKinsey, our people share some qualities that help make us successful– and that make working here fun: Personal Impact, Entrepreneurial Drive, Problem Solving Skills, Inclusive Leadership" - Mckinsey & Company

"We seek passionate, open -minded individuals with a wide range of academic backgrounds, work experiences, perspectives, thinking styles, and expertise. Excellent academic credentials are a necessary, but not sufficient, requirement. You also must demonstrate the curiosity to ask the right questions, the courage and creativity to blaze new paths, the ability to collaborate with colleagues and clients, and the leadership skills to transform your ideas into action" – Boston Consulting Group

" We seek individuals demonstrating the following attributes: Problem solving skills, The Ability to Lead, Results Delivery, Passion" – Bain & Company

"If you're reading this, you're smart enough to already know what we're looking for. Insightful, yes. Inquisitive, naturally. Collaborative, of course. But we're also looking for people who think further than that, who don't accept the first thing in front of them, and who are always unapologetically themselves." - Kearney

What does a case interview consist off?

A case interview can be thought of as a simplified and shortened version of an actual consulting project. The candidate is presented with a business problem, after which he or she will need to segment the information provided, navigate his or her structure, identify key factors which are driving the issue that is being addressed, lead a hypothesis driven analysis and ultimately suggest a recommendation to solve the issue.

Quantitative Capabilities

How comfortable are you with numbers? You need to not only do quick and accurate calculations but also clearly communicate business insights and other implications of your quantitative analysis.

Listening and Synthesizing

Are you able to listen to the question prompt, understand the company and the overall business environment, and ask the right kind of questions to elicit more relevant information?

Business Sense

Can you identify how the business operates? What the pain points or synergies within the business are? Are you able to create solutions to help resolve it?

Structured Thinking

Are you able to break down your thought process in a structured manner and follow a hypothesis-driven analysis of the problem that needs to be solved?

Synthesizing and communication

Can you synthesize all the analysis done in a clear, concise and actionable manner for your client? Can you then communicate it in the same way?

Common Types of Cases:

Profitability, Market Entry, New Product Development, Pricing, Valuation , Competitive Interaction, Estimates/Market Sizing

Fit Interview

Consultancy firms use the Fit or Personal Experience Interviews to learn about the candidate's personal interests and passion s, gauge the candidate's interpersonal skills and ability to successfully work in diverse teams, and most importantly assess how well the candidate understands the firm and its values.

Examples of questions asked during Fit interviews:

General Questions:	Competency Based Questions:	Forward looking Questions:
• Tell me about yourself / Walk me through your CV • Tell me something about yourself that is not on your CV • What are you most passionate about? What matters most to you and why? • Why Consulting? Why that specific firm? Why that specific location? • What are your interests outside of work? • What is your proudest accomplishment?	• Tell me about a time when you demonstrated entrepreneurial drive • Tell me about a time you worked in a diverse, cross functional team • Describe a failure you've experienced at work? What were the biggest learnings from that experience? • Tell me about a time when you led a team and accomplished impactful results	• Suppose we hire you and you need to manage a team of 5 analysts who know more about consulting that you – what would be your leadership style? • Suppose you are in a client meeting and you see a competitor's consulting report on the client's desk, do you look at the report? • Suppose we assign you to a project in an industry you have minimal knowledge about – how do you start your work?

Both the Case and Fit components of the selection process are accorded equal importance by recruiters and good performance in one will not make up for a poor performance in the other. Ultimately, consultancy firms simply will not employ someone who they doubt will be a good fit with the company, regardless of how great the candidate is at cracking cases.

A brief overview of the preparation

Balancing your fit and case prep, as well as updating your documents and researching/networking

Documents

- CV: Don't spend too much time adapting
- CL: Why consulting? Why this firm? Why location? Why me?

Fit interview preparation: 20 – 30 hours

Many are under prepared – start now!

Tell me about yourself:
- Autobiographical or theme-based
- 2.5 – 3 minutes
- Prep the most!

Autobiographical Qs:
- Strength/weaknesses
- Long-term plan
- Why consulting? Why the firm? Why location?

Competency Qs:
- 6 – 8 stories
- Brainstorm stories, not answers
- Practice adaptations

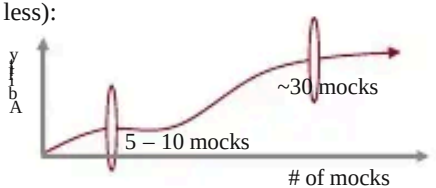
Research and Networking

Tips:
- Watch office selection video
- Follow partners on LinkedIn
- Look for "high activity" profiles
  - LinkedIn Cover Photo
  - Shares and Likes posts
  - Premium subscription
- Look for similar profiles

In the session
- Ask questions about them
- Ask "who else" to talk to or if you can follow -up with them

Case Prep: 40+ hours

Mocks (some might take more, and others less):



- Learn 1-3 cases to deliver
- Take good notes & synthesize findings
- MBA 2yrs, professional coaches, alumni, and CDC

Drills:
- Market sizing
- Frameworks
- Brainstorming
- Quants
- Charts & Graphs
- Industry Sprints

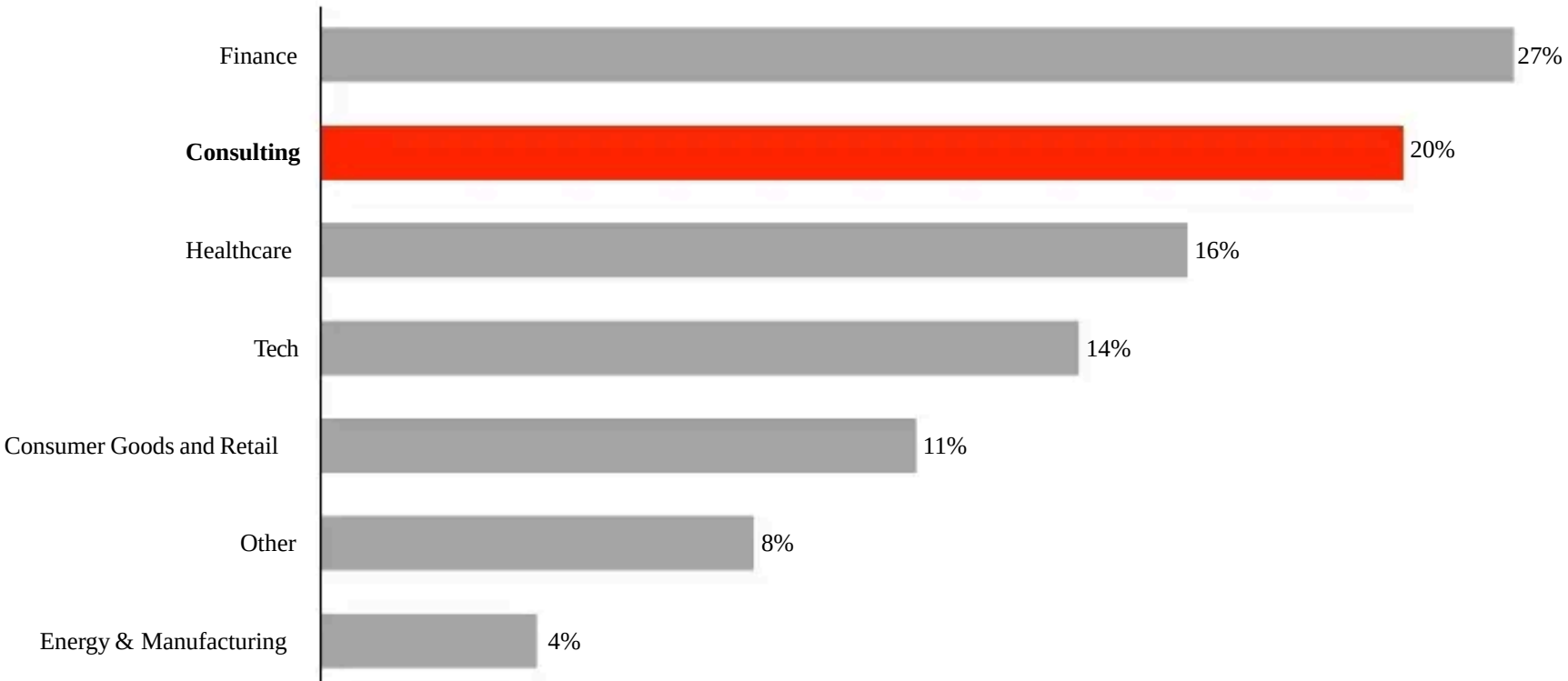
Use **RocketBlocks** to complete drills, suggestion: 1 hour/day

Use **CaseCoach** to partner up with other students and professional coaches (more info later). Also, review concepts.

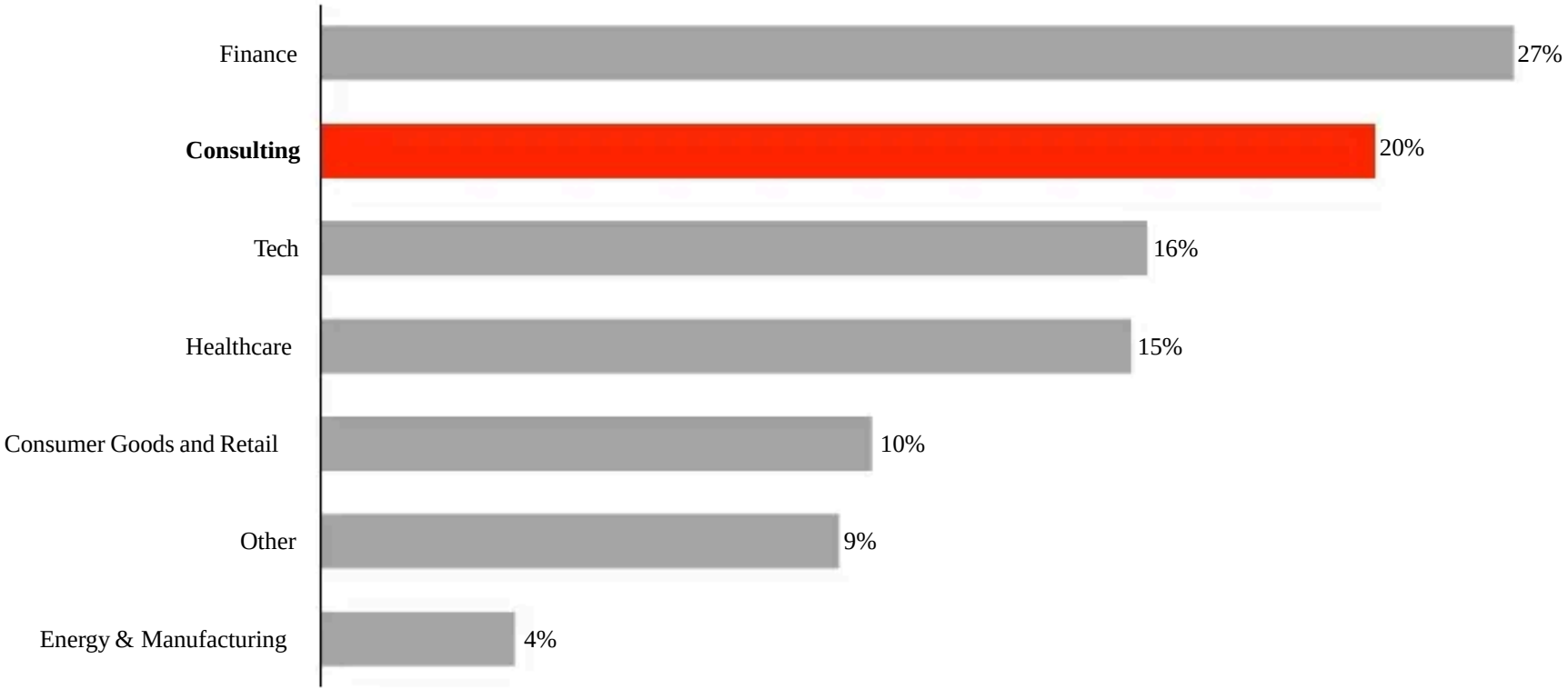
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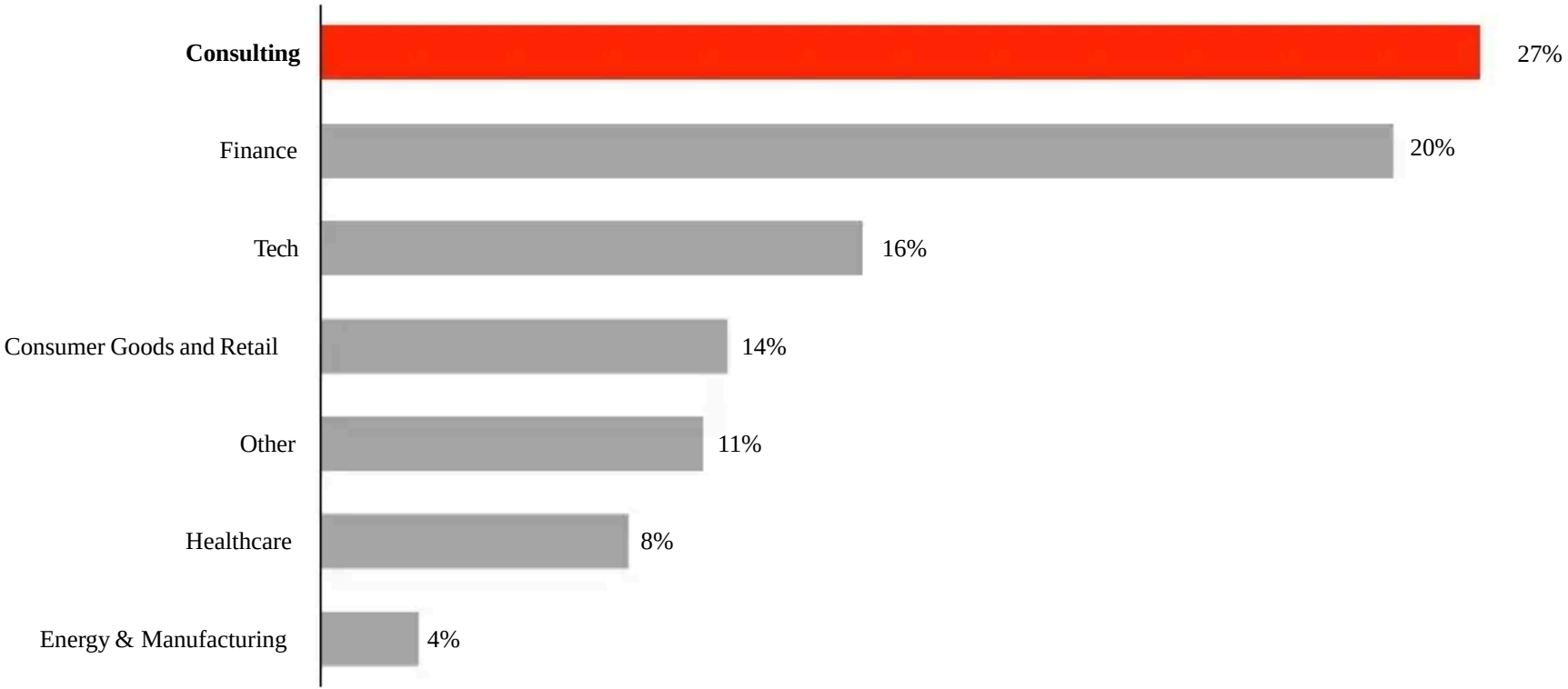
Internships by Sector – Class of 2021



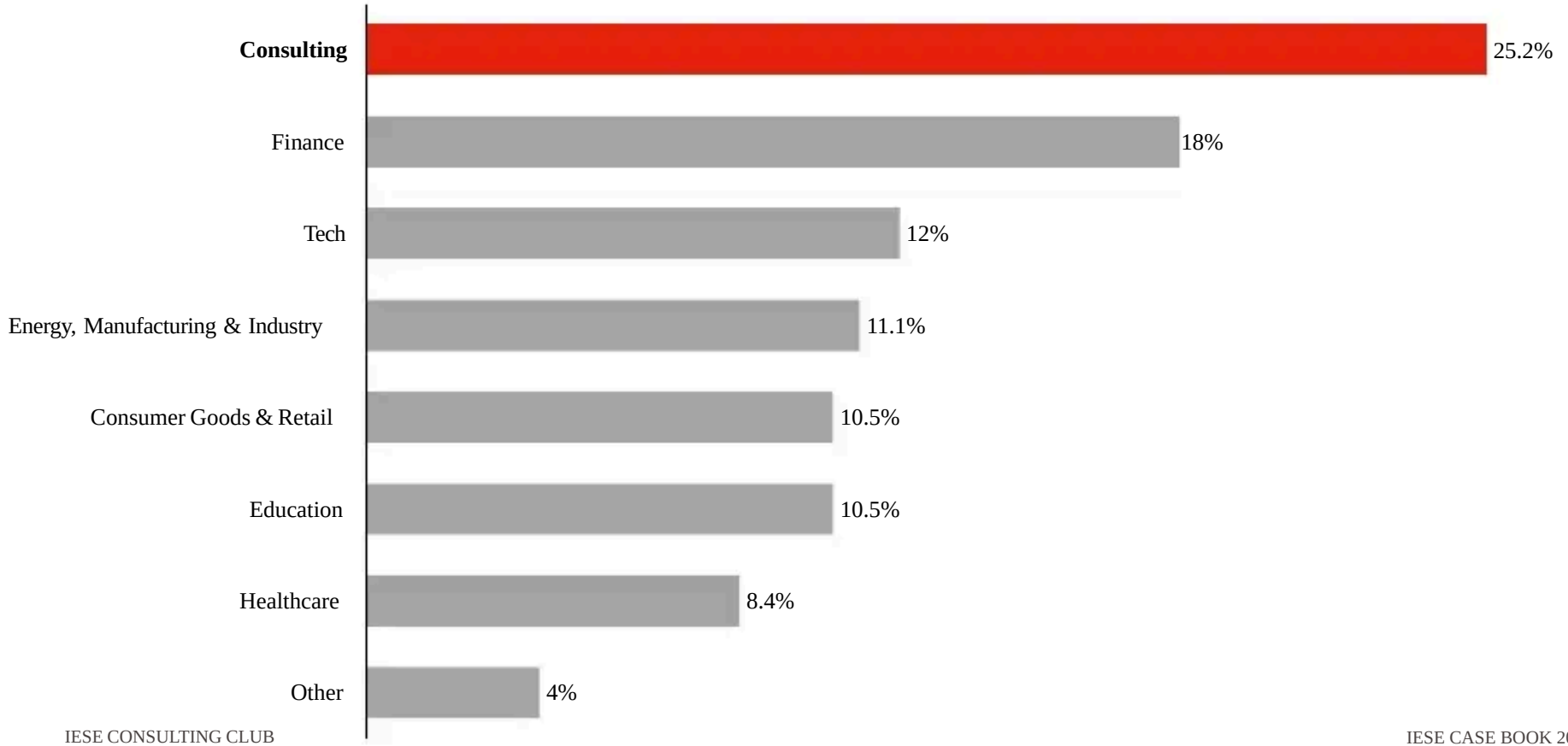
Internships by Sector – Class of 2022



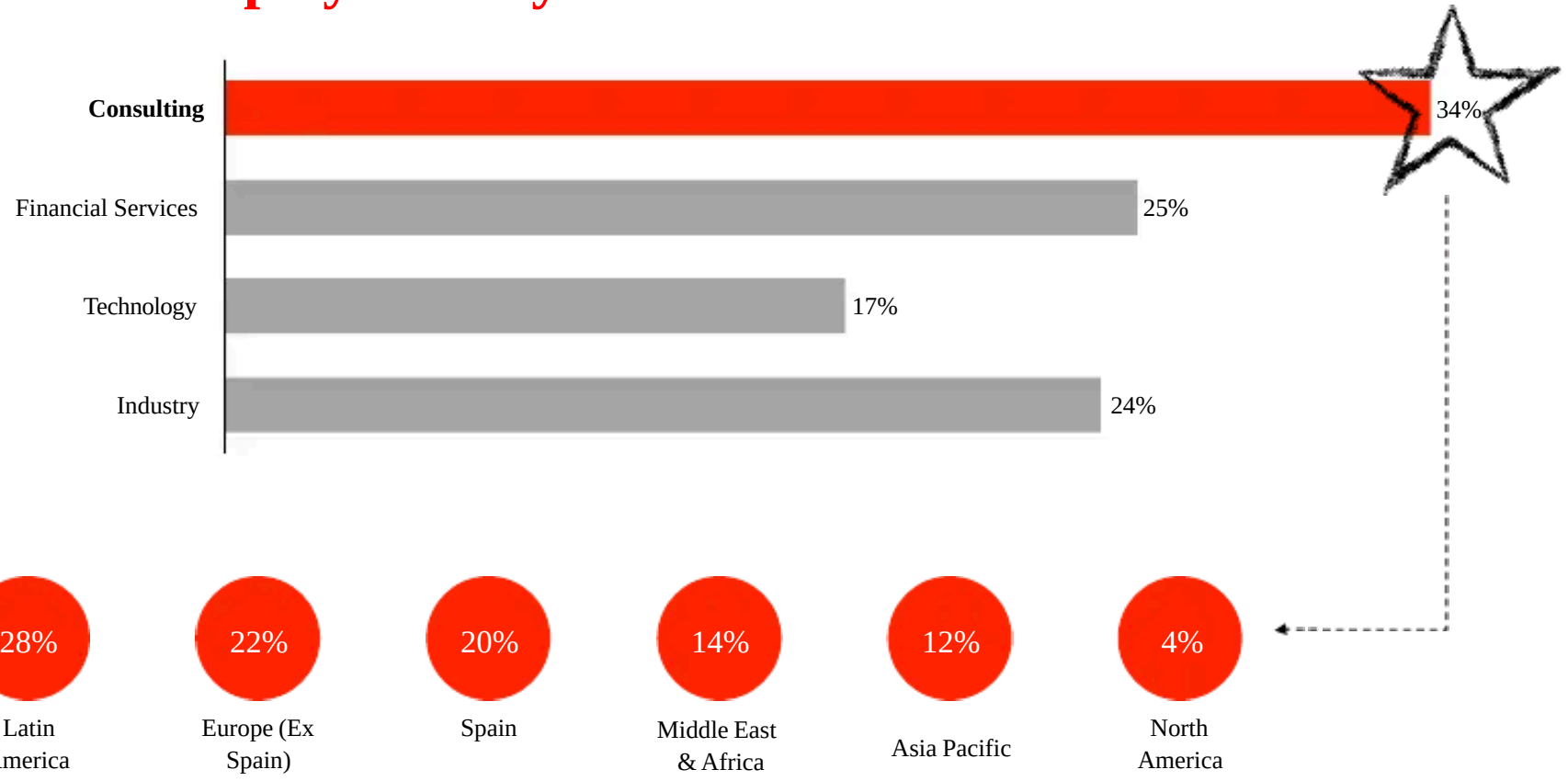
Internships by Sector – Class of 2023



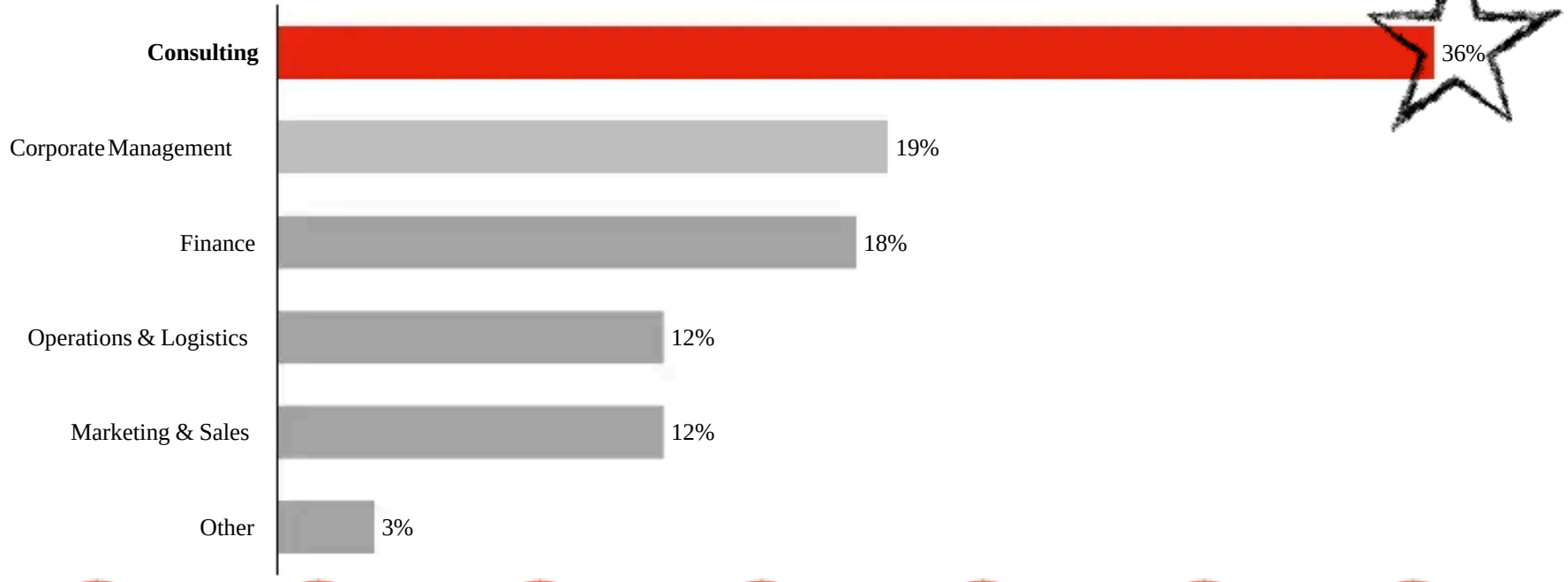
Internships by Sector – Class of 2024

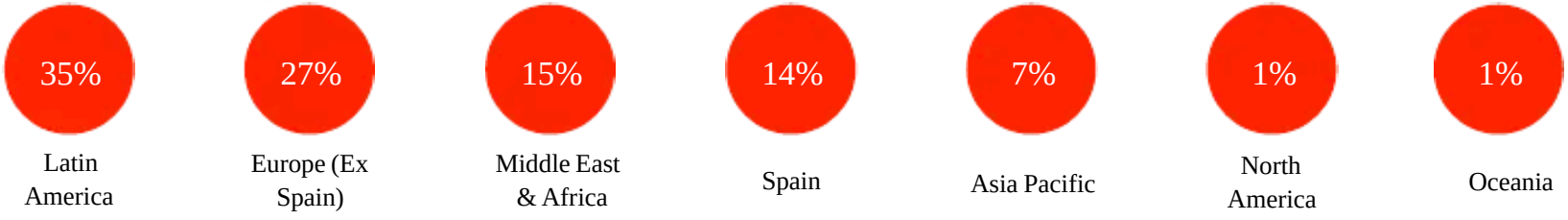


Fulltime Employment by Sector – Class of 2021



Fulltime Employment by Sector – Class of 2022





Average Compensation by Sector – Class of 2021

Sector	Average of Annual Base Salary*	Min of Annual Base Salary	Max of Annual Base Salary	Average of Other Compensation	Min of Other Compensation	Max of Other Compensation
Consulting	93,981	47,500	168,652	58,789	5,539	350,844
Finance	83,998	50,000	133,408	58,363	1,000	160,219
Industry	82,235	52,887	120,025	35,436	2,000	142,203
Technology	86,051	46,162	132,951	46,041	8,500	182,303

*In Euros

Average Compensation by Sector – Class of 2022

Sector	Average of Annual Base Salary*	Min of Annual Base Salary	Max of Annual Base Salary	Average of Other Compensation	Min of Other Compensation	Max of Other Compensation
Consulting	95,300	41,500	176,000	67,600	3,900	136,800
Finance/Accounting	101,200	50,000	181,000	77,700	9,100	286,600
Management	90,200	55,000	144,700	63,900	11,000	134,300
Marketing/Sales	84,300	50,000	174,200	85,700	3,500	198,700
Operations/Logistics	81,900	30,000	164,600	90,000	14,000	221,600
Other	78,000	66,000	88,000	44,200	7,600	104,000

*In Euros

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Industry Know How – Airline

- **Airline**
- Automotive
- Banking / Financial Services
- Insurance
- Healthcare
- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers	
• Low margins - high volumes • Consolidation in industry over last few decades • High prevalence of loyalty schemes for differentiation • Competition from state owned companies • Power concentration in the suppliers and in the demand	• Ticket sales (Passengers & Award) • Ancillary: Charges for baggage, seats, and ticket flexibility • Cargo transportation **Specific to low cost carriers** • Advertising • On board duty free sales • Food and beverage	• Fuel • Depreciation • Maintenance • Labour (on-board vs. terminal) • Sales & Marketing	• Landing/terminal fees • Insurance/legal fees • Booking systems (GDS) • Lease/payment • Frequent flier program fees

Customer Segment	• Leisure travellers – generally price sensitive • Business travellers – important due to high margins and purchase of value added services	• Freight/cargo transportation • VFR (Visiting friends & relatives) • Travel agents/websites
Channels	• Direct – Airline sales team, airline website • Indirect online – Travel sites (OTA), price comparison sites (Metasearch) • Indirect offline – Travel agencies, corporate travel management companies	
External drivers/risks	• Travel affected by business cycle • Oil prices • Security	• Weather – especially extreme events • Sanitary (COVID-19) • Currency fluctuation
Trends	• Rise of low cost airlines has increased air traffic and expanded routes • Increase in online booking and check-in • NDC (New distribution capability) • Sustainability (Green fuels, emissions, and others)	

Industry Know How – Automotive

- Airline
- **Automotive**
- Banking / Financial Services
- Insurance
- Healthcare
- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• Low margins (but increasing) • High capital and labour intensive • Sector under transformation/disruption • Key players: – Original Equipment Manufacturers (OEMs) – National Marketing & Sales Companies (Affiliates or Non-affiliated) – Components & Replacement parts Suppliers (Tier#1 to #3) – Retailers – Others: RAC (Rent-a-Car) companies / Ride-hailing & Ride sharing companies / MaaS (Mobility as a Service) companies / Geo-location & Cloud companies) – Public Sector (Governments & Municipalities)	• New car sales • Used car sales • Parts sales • Servicing • Financing • Leasing • Subscription model • Data-sales to 3rd parties	• Raw materials • Labour • Marketing (Advertising) • Depreciation • Financing costs • Recall costs • R&D • Logistics

Customer Segment	• By business model (B2B/B2C/B2G) • By vehicle type (Cars/LCVs [1]/Trucks) • By price point (Mass/Premium) • By route frequency (Commuters/One-off)	• By product type (Mini/Urban, Hatchbacks, Sedan, Crossovers, SWs [2], SUVs, Pickup Trucks, Vans, Sports Cars, Performance [3]) • By usage (Off-road, On-road, Performance/Track) • By powertrain (Petrol, Diesel, Hybrids [4], BEVs[5], Others [6])
Channels	• Car dealerships • Secondary market (online and offline)	Service outlets for automotive parts (affiliates & independents)
External drivers/risks	• Business cycle • Disposable income per capita • Oil/Gas/Electricity prices	• Steel/Lithium/Nickel prices • Consumer confidence index • Regulation
Trends	• Shift to cleaner energy (electric, hybrid or fuel cells) • Self driving (Autonomous) cars	• Congestion & pollution in big cities • Multi-modal transportation & hubs • Smart Infrastructure / Connected cars

Industry Know How – Banking / Financial Services

- Airline
- Automotive
- **Banking / Financial Services**
- Insurance
- Healthcare
- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• **Retail banks:** Take deposits, provide loans • **Investment banks:** Raise debt/capital, M&A advisory, market making • Cornerstone of economies • Highly capital intensive • Complex and highly regulated	**Retail banks:** • Loan/credit interest • Service fees (Balance check, withdraw) • Interest rate on reserves (spread) • Commissions on the distribution of third party products (such as insurance) **Investment banks:** • Underwriting (IPOs or bond offerings) • Deal completion fees (M&As) • Fees for financial advice (Asset Mgmt) • Proprietary Trading	• Labour (wages) • Overheads – costs for running branches • Interest rates on deposits • Fines • Bad debt expense

Customer Segment	**Retail** • Business customers • Low, medium and High net worth individuals • Everyday customers	**Investment** • Acquiring companies • Companies looking to raise capital • Companies looking to IPO
Channels	• Retail banks (ATMs, cashiers, branch managers, online banking, call center) • Investment banking (Officer – Account manager; investment advisor)	
External drivers/risks	• Business cycle (default rates) • Central bank interest rates • Consumer saving behavior	• Regulation • Customers centricity
Trends	• Rise of challenger and digital only banks (customers in the centre) • Increasing digitization and decentralization • Increase in mobile banking	

Industry Know How – Insurance

- Airline
- Automotive
- Banking / Financial Services
- **Insurance**
- Healthcare
- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• **Insurance companies:** covers the risks in exchange for a premium • Intangible services being provided • Complex and highly regulated industry	**Premium** • Charging premiums in exchange for insurance coverage **Investment** • Investing the premium acquired into other interest-generating assets (spread)	• Payments of claims + Adjustments • Acquisition expenses (broker´s commissions, sales personnel, and marketing expenses) • Administrative Expenses (legal, compliance, underwriting, etc.)

Customer Segment	**B2C** • Customers from low, medium and high income • Clear credit line	**B2B** • SME (Small and medium enterprises) • Corporations
Channels	**Offline** • Brokers (branches and call centres) • Retail bank (ATMs, cashiers, managers)	**Online** • Insurance company´s website • Online banking • Online insurance shopping
External drivers/risks	• Regulations • Cybersecurity (client´s database) • Climate change	
Trends	• Rise of big data in the industry – important to understand customers´ behaviors and design an specific insurance for them - Metromile • Evolution of insurtechs (customers in the Center) – Lemonade	

Industry Know How – Healthcare

- Airline
- Automotive
- Banking / Financial Services
- Insurance
- **Healthcare**
- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• High margins • Highly capital intensive with long time horizons • Patent lasts for approx. 20 years • Blockbuster is > $1bn. In sales • Branded vs. generic drugs • Cannibalization – key aspect • Dosage • Drug Effectiveness: -> Cure / Treatment ->Time to market -> Adverse / Side effects	• Sales of drugs • Insurance payments	• Manufacturing • Sales & marketing • R&D

Customer Segment	• Doctors • Pharmacists • Hospital administrators	• Patients • Insurance providers • Governments
Channels	• Over the counter (OTC) • Prescription • Hospitals	• Pharmacies • GP practices • Direct to Consumer (DTC) – few countries
External drivers/risks	• Regulation (FDA Approvals) • Politics • Loss of patent leads to big loss in revenue	
Trends	• Numerous M&As as big players look to enhance R&D pipeline • Consolidation of players focusing on specific treatment areas • Wearable Medical Devices, Gene Therapy, Value based healthcare	

Industry Know How – Manufacturing

- Airline
- Automotive
- Banking / Financial Services
- Insurance
- Healthcare
- **Manufacturing**
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• Mechanical, physical, or chemical transformation of raw materials into new products • Margin fluctuates by volume (economies of scale, high fixed cost) • Capacity utilization is key KPI (normally target is around 90%)	• FG (finished good) sales – standard products • Module sales – customized products	• Raw materials • Labour • Machinery (CAPEX) • Quality control (COPQ) • Inventory costs • Customization costs (prototyping) • R&D costs

Customer Segment	• Businesses • Retailers • End consumers	
Channels	• Retail (industries selling directly to end consumers / FG sales) • Wholesale (B2B, products used to manufacture other products / module sales)	
External drivers/risks	• Business cycle • Commodity availability/price • Labour unions	• International trade agreements (or wars) • Tax cuts (China – LEDs, semiconductors) • Technology trends
Trends	• 3D printing • High quality outsourcing • Platforms	• Automation – M2M, IoT – Industry 4.0

Industry Know How – Energy (Oil & Gas)

- Airline
- Automotive
- Banking / Financial Services
- Insurance
- Healthcare
- Manufacturing
- **Energy (Oil & Gas)**
- Energy (Power & Utilities)
- Retail
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• **Upstream** – exploration & production • **Midstream** – processing, transporting, and storage • **Downstream** – refining, distribution, and marketing • **Renewable energy** – hydro, solar, wind	• Raw materials (crude oil, gas) • Derivatives – Petroleum – Plastics – Lubricants • Trading • Commodity transportation (midstream) • Construction of new pipelines	• Drilling & Exploration • Maintenance & Reliability • Transportation • Labour

Customer Segment	• Operations • Upstream/Midstream/Downstream • Gas Stations	• End user • Airplanes/Utility Companies/Facilities • Refineries
Channels	• Retail • Commercial	• Trading
External drivers/risks	• Price of Oil • Strikes / Protests • Government regulation / political factors • Equipment age	• Reserves • Demand • Substitutes • Safety
Trends	• Efficient/smart machinery • Pricing differences between countries	• Alternative energy increasing • Political views of production and transport

Industry Know How – Energy (Power & Utilities)

- Airline
- Automotive
- Banking / Financial Services
- Insurance
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- Energy (Oil & Gas)
- **Energy (Power & Utilities)**
- Retail
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Overview	Revenue Streams	Cost Drivers
• **Generation** – Solar PV, Thermosolar, Wind, Biomass, Cogeneration, Hydro, Pumping, Nuclear, Waste, Combined Cycle and Coal Power Plants • **Distribution** – (voltage level <=132 kV) • **Transport** – (voltage level >= 220 kV) • **Retailers**	**Generators:** • Electricity wholesale market • Feed-in-tariffs (if winner of an electricity auction) or PPAs **Transport and Distribution Operators (TSO & DSOs):** • Regulated remuneration **Retailers:** • Electricity bills • Natural gas	**Renewable Generators:** • Large CAPEX: Land, EPC (inc. OEM equipment) • Small Opex: O&M **Conventional Generators and Biomass:** • Large CAPEX: Land, EPC (inc. OEM equipment) • Large Opex: Fuel costs and O&M **Transport and distribution operators:** • Recurrent CAPEX: asset renewal, digitalization & automation, (new and replacement OEM equipment) • Large OPEX: O&M, Customer Service **Retailers:** Electricity Trading and Customer Service
Customer Segment • Retailers: Households and Commercial sector, • Retailers and Generators: Industry and government		**Electricity Prices:** • Wholesale market price • Government charges to pay networks and FITs • Government Taxes
External drivers/risks	• Marginal Pricing System (Scarce goods) • Government Taxes • Interconnection with other countries	• Natural Gas Prices • CO2 Prices • Storage (Security of Supply)
Trends	• Decarbonization of economy (100% Green) • Storage (Security of Supply) • Increase of demand (electrification)	• Renewables CAPEX and OPEX decreasing • Deployment of renewables

Industry Know How – Retail

- Airline
- Automotive
- Banking / Financial Services
- Insurance
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- Manufacturing
- Energy (Oil & Gas)
- Energy (Power & Utilities)
- **Retail**
- TMT
- Information Technology

Overview	Revenue Streams	Cost Drivers
• **Key ideas** > Same store (comp) sales > Store productivity - Sales per square foot - Sales / traffic - Traffic per labor hour > Inventory turnover • Low margins (except for luxury brands) • Likelihood of price war (usually through discounts)	• Fashion: apparels, bags/wallets, accessories (e.g., Gucci, Coach) • Drugs & cosmetics (e.g., L'Oréal, Estée Lauder) • Furniture & household goods (e.g., Maison de Monde, Maiden Home) • General merchandise (e.g., Dollar Tree, JC Penny) • Key metrics > Offline sales = Traffic * Conversion% * Units per transaction * Price per unit > Online Sales = Impressions * Conv% to traffic * Conv% to purchase * $ per purchase	• COGS > Fixed: facilities > Variable (production could be outsourced) - Raw materials - Labor - Duty and freight - Shrinkage and obsolescence • Compensation of store employees • Occupancy (i.e., rent and utilities) • Marketing

Customer Segment	• Household income • Age/gender • Geography • Purchase frequency	
Channels	• Hypermarkets • Discount retailers/outlets • Flagship stores • Wholesale/distributors	• Shopping malls • Department stores • Duty free stores • Ecommerce (direct site/third party)
External drivers/risks	• GDP/Inflation/consumer confidence index • Business cycle (holidays, sale season) • Geopolitics (e.g., trade war, nationalism) • Natural disasters/pandemic	
Trends	• Omnichannel • More concentrated toward high and low end brands • Sustainability • Supply chain diversification	

Industry Know How – TMT

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Overview	Revenue Streams	Cost Drivers
• High capital expenditure • High R&D costs • Use of bundling to differentiate • **Always consider churn!**	**Subscriptions (Avg. Revenue per User)** • Voice calls • Messages • Data/internet • IT/cloud services **Other Revenues** • Accessories • Mobile handsets	• Raw materials – Fiber optic network – Transmission towers – Spectrum frequency – Customer premise equipment • Sales & Marketing • Labour

Customer Segment	• Consumer and Small Businesses (price sensitive) • Businesses (price insensitive)
Channels	• Retail stores • Online
External drivers/risks	• High entry and exit barriers • Rapid development of technology • Highly regulated industry (specific frequency open/closed by the government)
Trends	• Shift from desktop to mobile • Artificial intelligence, machine learning, deep learning • Virtual and augmented reality • 5G (high data speed) & IoT (LPWAN, Low Power Wide Area Network)

Industry Know How – Information Technology

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Overview	Revenue Streams	Cost Drivers
• Projects are delivered in an onsite and offshore model • Onsite team (in US, EU): the functional consultants and the lead developer. • Offshore(In India, Philippines etc.): Dev, Test, Deploy • Generally, consulting led approach across • Software development lifecycle and multiple domains – AI, Cybersecurity, Cloud, IoT, Blockchain etc. • IT Infrastructure • Business Process Outsourcing • Checkout website of Accenture or Tata Consultancy Services to understand more	Largely, multi year B2B contracts. For e.g. imagine an AI product for a bank. Revenue could be 1. Consulting to identify product needs (8 weeks) 2. Product Development (6 – 12 months – **based on complexity**) 3. Test and Roll out (ongoing 6 – 12 months – See Agile and DevSecOps) 4. Product Maintenance (at least 18 months to 24 months – driven by **customer's inhouse capability to manage, budget and complexity**) 5. Business Process Outsourcing	• Manpower and overhead costs (includes training, upskilling on evolving technologies) • Infrastructure – Storage, Connectivity, Systems • Facilities • Research and Development (not major but IT firms are trying to build industry specific products – can assume that annual revenue from products is about 5% on average)

Customer Segment	• Big IT players qualify companies with revenue upwards of USD 500mn+ (Accenture, IBM, Tata Consultancy Services, Infosys) • Increasing focus on subscription model for SMBs
Channels	• Marketing – All (not limited to any channel now) • Sales – Typical Account development and management ranging from cold calls to farming accounts
External drivers/risks	• Customers may want to have their own low cost IT "captive" set up in emerging economies • Tech product firms offering bundled services – Salesforce, SAP, Microsoft, etc(often pricier) • Regulations (some governments want a foreign IT firm to have a certain percentage of local workforce)
Trends	• Shifting focus on building products along with services • Facing competition from telecom providers traying to become one-stop-shop System Integrator

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How you apply to Consulting firms will vary based on their recruitment structure



Global Recruitment

McKinsey, Bain, BCG

Submit **one application** with up to **three office selections** , broken down by rankings and percentage; global relationships with offices

Regional Recruitment

Strategy&, Monitor
Deloitte, EY-Parthenon, ZS

Submit **one application** to **one office;** relationships with offices are individual



Some basic strategies can improve your chances of success significantly



Narrow down your office selection – very rarely will you get called from an office you mark with < 30%



Invest in local office networking in any market you are applying to, **particularly non-home countries**

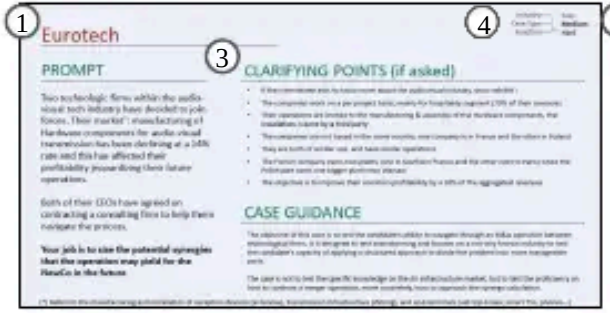


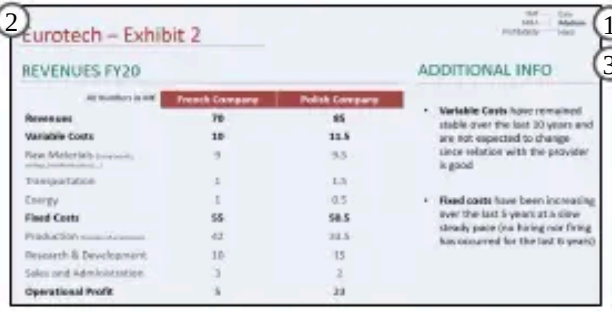
Some firms have areas you can apply to: General, Digital, and Operations – **do due diligence before applying!**

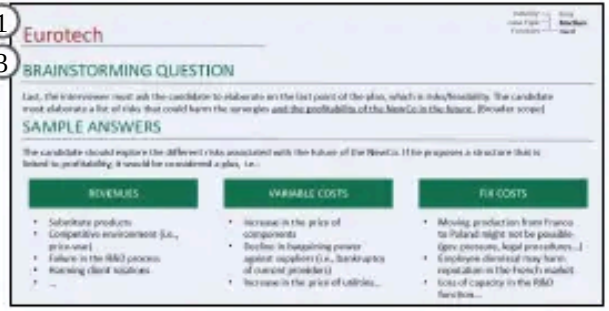


Improve the odds of getting invited to interview – **send as many applications as you can!**

How To Use This Case Book







We designed this book to be practical and straightforward for both the interviewer and the interviewee. Read the following instructions to ensure a smooth application process and to extract most value out of this case book.

1. Red titles mean information that the interviewer has to give to the interviewee, including the prompt, clarifying questions and exhibits.
2. Exhibit pages provide necessary information to interviewees solve the cases and should be handed in their entirety when instructions asked to do so
3. Green titles mean information that can help the interviewer in guiding the case including expected takeaways, expected considerations, calculations and sample recommendations. Interviewers should not disclose this information to candidates but use it to guide themselves into the flow of the case and help candidates in navigating the numbers.
4. Each case is classified by its industry, theme, and concept tested as well as by its level of difficulty.

TNETNOC

- INTRODUCTION TO CONSULTING
- IESE STATISTICS
- INDUSTRY KNOW HOW
- BEST PRACTICES AND TIPS
- CASES
  - BCG CASE COMPETITION CASES (3rd EDITION)
  - PREVIOUS CASEBOOK CASES

SESAC 2022

Case Title	Industry	Type of Case	Difficulty Level	Source
☆ NutriPreg	Healthcare	Market Entry & ROI	Medium	New
☆ ElectroCorp	Manufacturing	Market Entry & Profitability	Hard	New
☆ Pest Pro	Services	Market Entry & Market Sizing	Hard	New
☆ Thirsty for Rain	Maritime & Logistics	Operations Management & Cost Reduction	Hard	New
☆ Parking & Co	Infrastructure	Profitability & Payback Analysis	Medium	New
The Flying Metro	Airlines & Infrastructure	Market Sizing & Profitability	Hard	New
Fixing SilverLand	Public Sector	Strategy & Economic Development	Hard	New
TBell Mining	Mining	Optimization & Profitability	Hard	New
Employee Vaccination Benefits	Healthcare	Product Launch & Market Sizing	Medium	New
Grab your popcorn	Entertainment	Operations & Revenue Increase	Medium	New
Hello Telecom	Telecom	Product Launch & Market Sizing	Hard	New

☆ BCG case competition 2023 winning cases

NutriPreg

By Pratik Shah (MBA 2024)



Health and Nutrition
Market Entry
ROI

Easy
Medium
Hard

Health and Nutrition
Market Entry
ROI

Easy
Medium
Hard

NutriPreg

PROMPT

NutriPreg is a manufacturer of prenatal vitamins, with strong presence in the US market. They are considering expanding to Europe, starting with Spain.

The CEO of NutriPreg has hired you to assess the profitability of this new Market and whether Spain is an appropriate penetration point.

CLARIFYING POINTS (if asked)

- NutriPreg has 1 key product – for women throughout their pregnancy journey (from week 1 to delivery)
- No financial constraints. Main aim is profitability.
- How do they sell? DTC and have their own distribution in USA, not decided on the distribution in Europe
- Expansion to other parts of Europe will depend on the success of Spanish market. Currently in USA only.
- There are many competitors, but NutriPreg aims to place itself as a premium brand with higher price but better quality and benefits.
- Want 25% ROI within 4 years but have a threshold of 20% within 5 years.
- Price: 50 Euros per 30 tablets in a bottle. COGS: 10 Euros. Marketing and setup spend = 1 Million Euros. Other costs: 500,000 per year.

CASE GUIDANCE

This case covers 1) Case structure, 2) Market Sizing, 3) ROI, and 4) Brainstorming

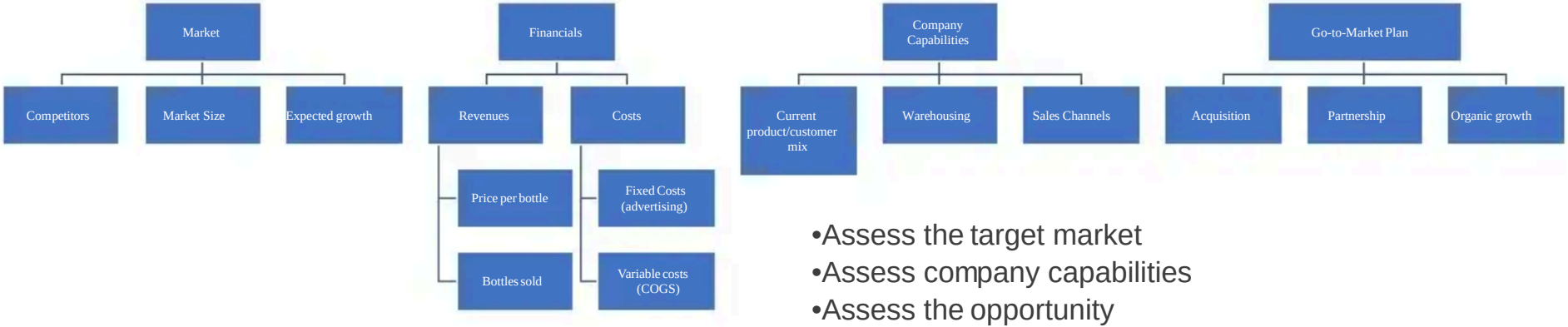
Market sizing is using the Work in Progress (WiP) Formula:

NutriPreg

STRUCTURE GUIDANCE

Key requirements: Market and Financials. Other parts of the structure are more fluid. A clear understanding of what is Required to figure out the ROI should be seen from the structure. Should include non-quant considerations (will come Back to this during brainstorming)

SAMPLE STRUCTURE



- Assess the target market
- Assess company capabilities
- Assess the opportunity
- Develop a go-to-market plan

Health and Nutrition
Market Entry
ROI

Easy
Medium
Hard

NutriPreg

Market Sizing

What is the market size (Quantity) of Prenatal Vitamins in Spain? (Let the candidate ask if we want it in terms of Quantity or Price, and whether quantity of bottles or pills).
If asked for the price of pills, ask why. Important to make them clarify which market size they are solving for.

Sample Answer

Assumptions:
Population of Spain: 50 Million (not needed to solve)
Yearly birth rate: 340,000
Pregnancy time: 9 months
Days in month: 30
Pill consumers: 1 in every 2 mothers

Market size = 340k * 9 * 0.5 = 1.53 Million bottles
Market size = 1.53 M * 30 = 45.9 Million Pills

Note: Check if the candidate thinks about how much of this market can be captured. If they don't give a number, provide 2% from 1 st year itself.

NutriPreg

ROI calculation

What is the ROI of the move after 5 years?
Allow rounding of the market to 1.5M bottles
Provide when asked: Price: 50 Euros per 30 tablets in a bottle. COGS: 10 Euros. Marketing and setup spend = 1 Million Euros. Other costs: 500,000 per year. Market penetration: 2% for the next 5 years. Assume no discounting

Sample Answer

Market = 1.5 Million bottles
Yearly:
Units sold: 2% * 1.5 M = 30k
Revenue = 30k * 50 = 1.5 M
COGS = 30k * 10 = 300k
Other costs = 500k
Profits = 700k / year

Market = 1.5 Million bottles
Total:
Units sold: 5 * 2% * 1.5 M = 150k
Revenue = 5 * 30k * 50 = 7.5 M
COGS = 5 * 30k * 10 = 1.5 M
Other costs = 5 * 500k = 2.5 M
Profits = 3.5 M

Initial Investment: 1 M
5-year profits: 5 * 700k = 3.5 M

ROI = 30% annually (approximately)

Note: Give a pause to see if candidate gives any inferences. Eg this is higher than company threshold, so financially it's a good decision.

Health and Nutrition
Market Entry
ROI

Easy
Medium
Hard

NutriPreg

BRAINSTORMING QUESTION

What other factors would you consider before entering the Spanish Market?
Note to interviewer: There is no right answer but see how they answer this in relation to their original structure.
Government regulation and distribution channels are important aspects to be on the lookout for.

SAMPLE ANSWERS

Market related: Market Potential, Competitive Landscape, Customer Insights, Long term growth potential;
Operation Related: Regulatory Environment, Distribution Channels, Operational Capabilities, etc.

Even internal vs external or any other structure will work.

Health and Nutrition
Market Entry
ROI

Easy
Medium
Hard

NutriPreg

RECOMMENDATION QUESTION

The CEO is going to be on call soon, what would your recommendation be for her?

SAMPLE RECOMMENDATION

Yes, it is a good idea to enter the Spanish market as it's a 46 Million Pills market, and capturing around 2% of the market would lead to a 25% Yearly RoI over the next 5 years, which is higher than the threshold of NutriPreg.

Based on NutriPreg's expertise capturing the 2% of the market is feasible. However, other factors that we will need to be mindful are the regulatory requirements, setting up of the distribution channels, and the long term growth potential. We also need to understand how our competitors will react.

To mitigate these, we will need to focus on understanding the approvals required, see if we can hire a 3PL for logistics at the start, and run a market study specifically focusing on mother's changing dependence on these types of pills.

ElectroCorp

By **Ignacio Granero (MBA 2024)**



Manufacturing	Easy
Market entry	Medium
Profitability	Hard

Manufacturing
Market entry
Profitability

Easy
Medium
Hard

ElectroCorp

PROMPT

Your client is ElectroCorp, a US manufacturer of electronics such as computers, TVs, mobile phones … in the mid-tier segment.
In order to grow to diversify the product line and keep growing the top line, the company is thinking about launching a new product in the US market: headphones

The CEO of the company hires you to know your opinion about the launch (i.e. whether to launch or not) and in case of launching what would be the best operational strategy: manufacture in one of their factories in China or use 3D printing technology.

CLARIFYING POINTS (if asked)

- ElectroCorp has revenues of 6bn and sells its products globally however for this opportunity the only consider the US
- 3D printing enables to manufacture a three-dimensional object from digital 3D model.
- The objective of the investment is to have payback in less than 3 years

CASE GUIDANCE

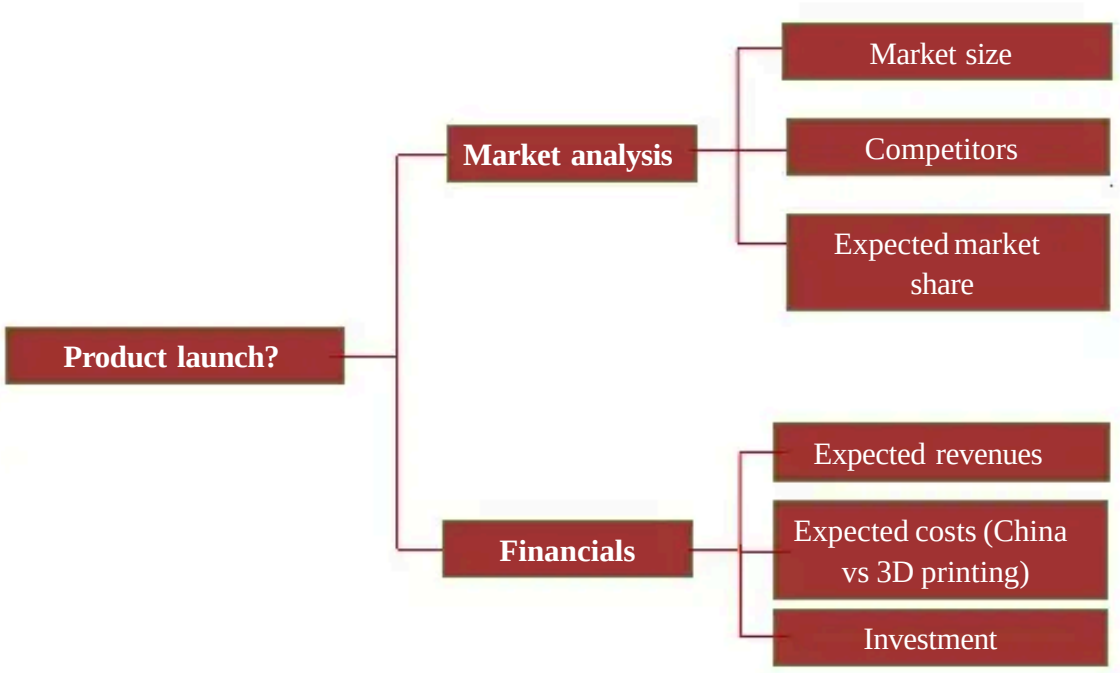
- This is an interviewee –led case where the candidate should guide the interviewer asking the information when needed.
- For simplicity reasons, time value of money, taxes, cost of capital and other financial measures have been ignored. However, a excellent candidate can mention them.

Manufacturing
Market entry
Profitability

Easy
Medium
Hard

ElectroCorp

SAMPLE STRUCTURE



STRUCTURE GUIDANCE

The structure design is very open-ended but should include at least the mentioned points in the proposed structure

Manufacturing
Market entry
Profitability

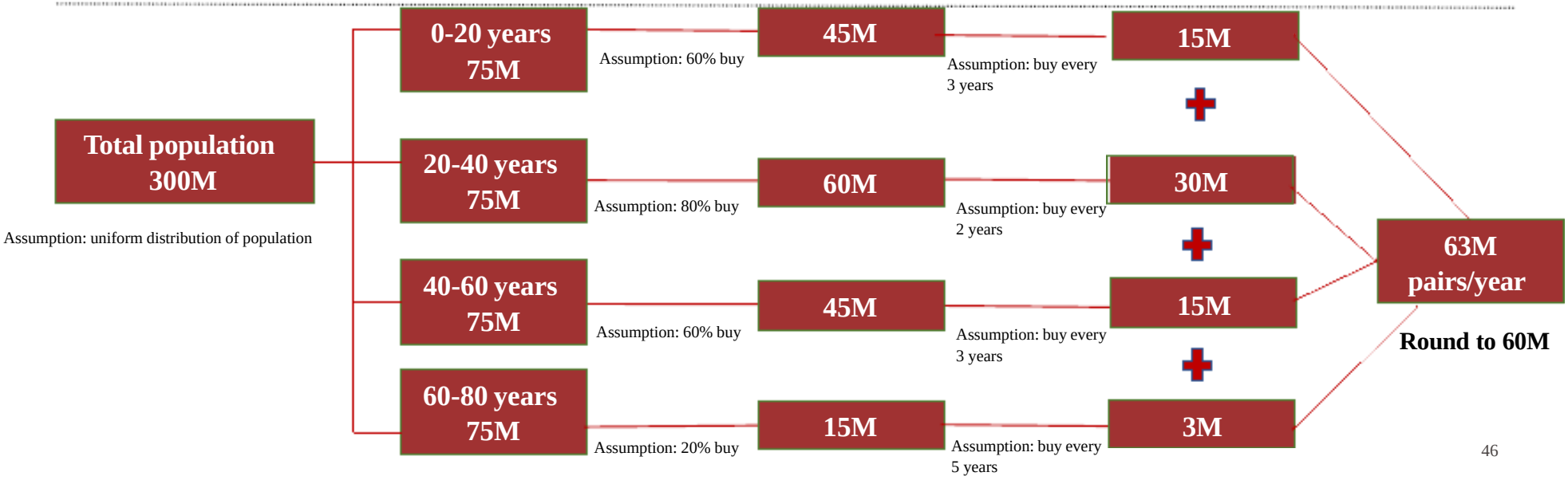
Easy
Medium
Hard

ElectroCorp

MARKET SIZING (Optional) - Interviewer's information

The candidate should do an estimation of the total market of earphones in the US. Focus only on B2C sales. The estimation should be in volume. The market sizing is an optional part of the case. If you consider it's not needed give the candidate an estimated figure of 60M units per year

PROPOSED SOLUTION



ElectroCorp

EXHIBIT 1-Interviewer's guidance

After looking at the market size, the candidate should ask more data about the market: competition, market share we can acquire …
The objective of these exhibits is to define the type of product to launch: wireless or wired and where to position the company: low, mid or high.
A good candidate will mention the following:
-75% of the market concentrated in 4 players which makes a market entry possibly more challenging
-The overall market of headphones is expected to grow
-The wireless segment is taking over the wired segment
-The best positioning for the company will be to enter in the wireless segment and position as mid-tier: makes more strategic sense for the company (they're mid-tier) and that segment has the lower customer loyalty for the previous player

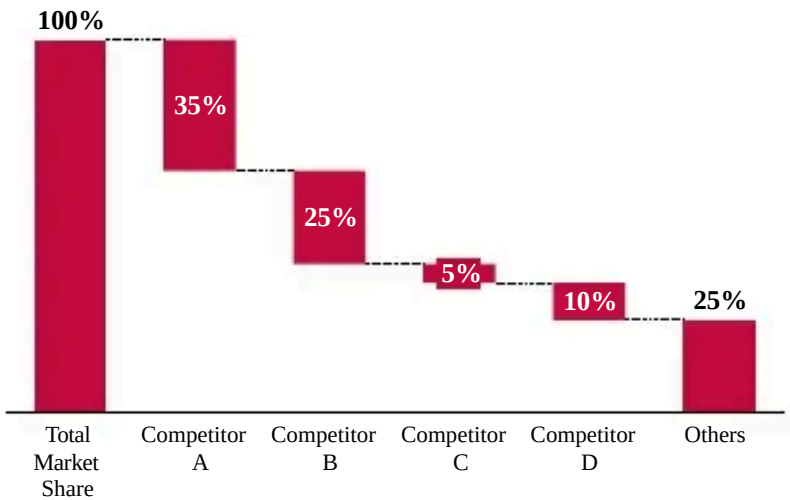
Manufacturing
Market entry
Profitability

Easy
Medium
Hard

ElectroCorp

EXHIBIT 1

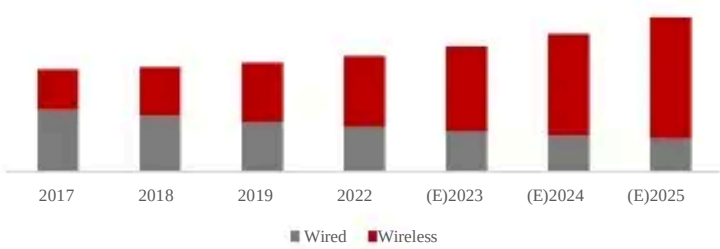
Market Share overview



Competitors Analysis

Company	Main product type	Positioning	Customer loyalty	Average selling price
Competitor A	Wireless	High	High	$150
Competitor B	Wireless	Medium	Low	$100
Competitor C	Wireless	Low	Low	$50
Competitor D	Wired	High	High	$70

US headphones market



Manufacturing
Market entry
Profitability

Easy
Medium
Hard

ElectroCorp

Financial analysis- Interviewer's guidance

In this step, the candidate should do a projection of the next 3 years revenues and costs. To do so, candidate will need to estimate a market share for ElectroCorp based on the chosen positioning of the product.
Rounding is allowed. To simplify calculations candidate should consider no market growth. An excellent candidate should ask about market growth.
After the analysis the candidate should point out that the company should go for the investment as it's profitable in less that a year and the requirement was to break even under 3 years. The 3D printing option is almost 4 times more profitable.

Revenues

Assumptions (these might change according to candidate's estimation)
-Position the product in the wireless mid-tier segment
-Market share "stolen" from Competitor B → 20%

Year 1	Year 2	Year 3
=60M*25%*20%*$100 =**$300M**	$300M	$300M

Costs- Interviewer's information

The company needs to decide whether to use 3D printing or use its current manufacturing processes.
-Option 1: Manufacture in China. 40 M€ investment needed. Transportation costs $1,000 per batch (batches are 10,000 units). Cost per unit $20. No hiring or extras costs needed.
-Option 2: Use 3D printing. Cost per machine $10M. Each machine has a capacity of 1,400,000 units per year. Cost per production batch $500 (100 units per batch). No shipment costs. 20 FTE: $50,000/each

ElectroCorp	Year 1	Year 2	Year 3
China	=(3M/10,000)*1,000+ 20*3M≈ **$60 M**	**$60 M**	**$60 M**
US 3D printing	=(3M/100)*500+50,0 00*$20≈ **$16 M**	**$16 M**	**$16 M**

ElectroCorp

Brainstorming question

What are the benefits you can think of using 3D printing to manufacture headphones?

Economic benefits

→ Production costs: Using 3D printing reduces the variable costs in the production process as well as the fixed costs.

→ Investment: It's cheaper to buy a 3D printing machine that to open a factory

→ Shipment costs: The company can reduce the shipment costs

Operational benefits

→ Demand matching: The production method is quicker and in US land for US customers which makes the company faster to adapt to demand peaks

→ Inventories: Less inventories as the company adapts better to demand

→ Diversify operational risk: Having a production in US grants the company more diversification in its production

Manufacturing
Market entry
Profitability

Easy
Medium
Hard

ElectroCorp

RECOMMENDATION QUESTION

The candidate should do make a final recommendation based on all the information analyzed in the case using top-down communication.

SAMPLE RECOMMENDATION

The candidate should make a recommendation including the following points:

→ Recommendation to enter the US headphones market
-Focus on wireless headphones as it's the fast growing segment and the biggest category
-The company can get a significant market share
-Use 3D printing because it's less costly, offers more flexibility and the payback is in less than 3 years

→ Risks: Competitive response, analysis highly-dependent on assumptions

→ Next steps: Sensitivity analysis for estimations, look for suppliers in 3D printing and establish a marketing strategy to enter the market.

PestPro

By **Saroop Peetamber (MBA 2024)**



Property Services
Market Entry
Market Sizing

Easy
Medium
Hard

Industry
Case Type
Function

Easy
Medium
Hard

PestPro

PROMPT

Your client, PestPro, is a leading B2B pest control company that works with large property management companies to service the apartment buildings in their portfolios.

After experiencing strong growth in the U.S., PestPro is looking to expand internationally and enter a new market organically. They have identified three potential markets, the U.K., France, and Germany.

The CEO has hired you to understand which market they should enter.

CLARIFYING POINTS (if asked)

- PestPro signs contracts with property management firms that provide exclusivity to treat pest issues in the building as requested. Technicians drive to location and complete the service. PestPro charges clients on a per treatment basis and the scope of treatment/time needed drives the price
- The company directly employs their licensed technicians, they do not sub-contract the labor
- PestPro leases all vehicles (does not own any)
- PestPro would source the materials/chemicals within the local market
- This would be the company's first international expansion
- They have identified these three markets because of the population, number of apartment buildings, and attractive industry growth rates
- The company wants to achieve at least **10 million euros** in annual sales after three years

CASE GUIDANCE

This is an interviewee-led case, and they should be able to quickly see this is a growth case that focuses on revenue rather than profitability. Pest control is a unique industry that is not well-known and while the interviewer may give some guidance, the interviewee should ask the right questions to understand the business model and drive towards the important aspects for solving the problem.

PestPro

STRUCTURE GUIDANCE

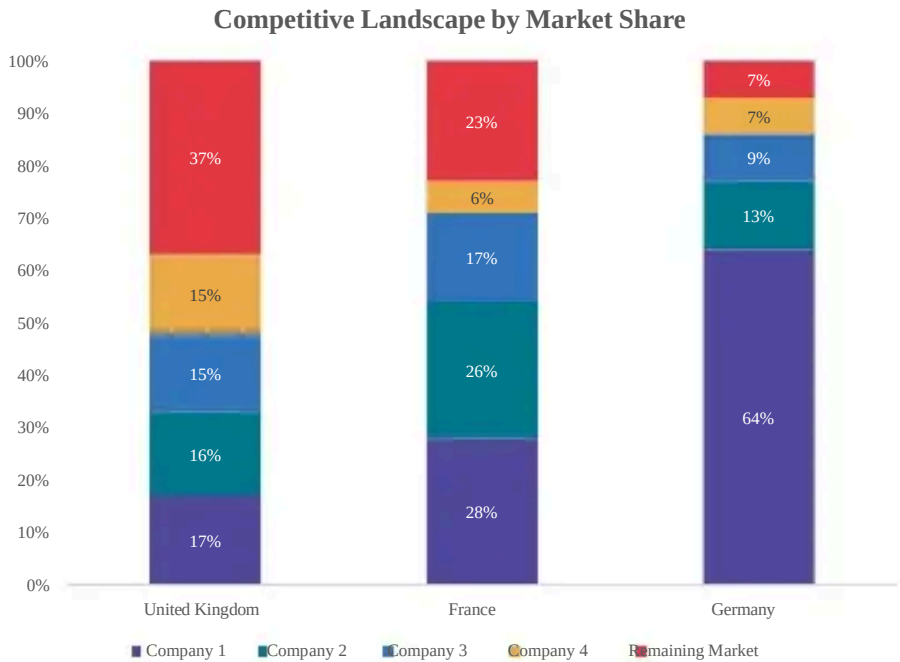
A good framework should focus on analyzing each market relative to each other and break out which markets are better financially and non-financially. A strong candidate should also understand the business model well enough to evaluate the capability to set up operations in international markets and potential alternatives. Financially, the candidate should focus on the components that would impact revenue given the objective, but also understand that variable cost could vary significantly across markets.

SAMPLE STRUCTURE



PestPro

EXHIBITS





*Notes: Remaining companies in each market are: 12 (U.K.), 50 (France), 5 (Germany)
Annual population growth primarily driven in metropolitan areas

PestPro

SAMPLE EXHIBIT CANDIDATE RESPONSE

First Chart:

- Candidate should highlight the chart outlines market share for the top 4 competitors by market, and a combined market share for remaining companies
- Candidate should notice that the note indicates the # of companies that make up the "remaining market" share percentage and F rance has the highest number of companies at 54
- Germany has a major player with 64% share and the remaining companies are small
- France has two major players, another company with significant enough market share at 17% and remaining market averages ~0.5% so they are small
- United Kingdom has 4 evenly sized companies and the largest share in the remaining market (37%) for 12 companies which is ~3% per company

Second Chart:

- Germany has the biggest population and France/U.K are the same size
- U.K. with highest annual growth and France with the lowest

Conclusion

- Candidate should eliminate Germany as an option given the large player and remaining companies having solid share so it would be hard to break into the market. The candidate should justify why they choose U.K. or France (growth rate vs. smaller companies to earn market share from)
- Candidate should show case leadership and inquire about additional information to make final decision between U.K. and France (# of apartment buildings, trying to understand market volume, etc.)

PestPro

QUANTITATIVE ANALYSIS

Given the market statistics, the client has now decided to enter the U.K. and would like for you to calculate two things:

(i) What is the annual revenue currently for the total market (in euros)
(ii) What is the annual revenue that PestPro can achieve after three years in this market (in euros)

SAMPLE SOLUTION

(i) Annual Market Revenue = # of apartments * blended average annual revenue per apartment

of apartments = population / # of people per family (assumption) * % of families living in apartments (assumption)

Blended average annual revenue per apartment = (X% of apartments with no treatments + Y% with some treatments + Z% with a lot of treatments) * revenue per treatment (assumption)

Example solution = [67M population / 3 per household * 20% living in apartments] * [(25% with 0 treatments/year + 50% of treatments with 2 treatments/year + 25% with 5 treatments / year) * 40 EUR per treatment

= 4.45M * (3.5 treatments/year * 40 EUR) = 4.45M * 140 EUR = **623M EUR**

(ii) Annual revenue that PestPro can achieve after three years = annual market revenue * population growth rate for 3 years * PestPro penetration rate

Annual market revenue = number calculated in part (i)

Population growth rate = population growth rate from exhibit. Note: Candidate should justify using the full growth rate or majority of it, given the footnote that population is driven in urban areas which typically have the apartment buildings

PestPro penetration = assumption. Note: this penetration rate should be justified based on how much market share small companies have

Example solution = 623M EUR * (1.05^3) * 2% market share = 623M EUR * 1.158 * 2% = 721M EUR * 2% = **14.42M EUR**

Note: Candidate could also justify that market size * market share would be > 10M EUR so no need to calculate population growth

Industry
Case Type
Function

Easy
Medium
Hard

PestPro

BRAINSTORMING QUESTION

In addition to the sales analysis, what are the other strategic decisions and risks that PestPro should consider to become successful in this new market over the next three years?

SAMPLE ANSWERS

Note: These are simply a few ideas that the candidate may outline. It is more important for the candidate to think big-picture and consider all aspects of what makes a service-based business successful

Cost Optimization

- Labor productivity (efficiency, optimal scheduling)
- Supplier negotiations (fleet, insurance, materials)
- Fixed costs

Service Excellence

- Training programs for treatment quality
- Routine audits of treatment
- Administrative excellence (technology, quick response)

Employee Satisfaction

- Employee hiring
- Employee retention
- Competitive compensation
- Attractive incentives
- Employee surveys, events

Branding

- Industry associations
- Marketing – print materials, online, etc.
- Client referrals

Diversification

- Adding new treatments
- Entering residential sector (organic or through acquisition)
- Annual preventative programs (recurring revenue)

Industry
Case Type
Function

Easy
Medium
Hard

PestPro

RECOMMENDATION QUESTION

The CEO is on their way to meet with us in a few minutes and would like to hear your recommendation.

SAMPLE RECOMMENDATION

To conclude, the candidate should outline:

Problem : Summarize the situation – entering one of three markets and meet 10M euros in annual sales

Recommendation : Proceed with entering the U.K. market given that they can achieve their goal of 10M euros in annual sales after 3 years

Calculation: Sales were calculated by considering the population living in apartments and the blended average revenue per apartment unit

Strategic Risks/Decisions : In addition to sales, PestPro should consider cost optimization, service excellence and their branding to remain competitive over the next 3 years

Next Steps : Recommend setting up a meeting with key stakeholders to review the analysis and outline key next steps for entering the market

Thirsty for Rain

By Javi Salinas (MBA 2024)



Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty for Rain

PROMPT

The Panama Canal is one of the most important maritime routes in the world. The canal serves around 144 trade routes that represent about 3% of world trade. The Panama Canal's biggest asset, however, is its water. Water management has become an increasingly important concern for the Panama Canal Administration due to irregular rainfall and changing weather patterns in the last decade. Water levels in the Panama Canal are critical to avoid delays in transit that can cost millions of dollars to the maritime and logistics businesses, ultimately affecting the Panama Canal's bottom line.

The Administrator of the Panama Canal has hired you to help evaluate what are the business implications of improving the canal's water management. What set of criteria would you use to evaluate these implications?

CLARIFYING POINTS (if asked)

- The Panama Canal Administration is an agency of the government of Panama responsible for the operation and management of the Panama Canal. The agency is one of the top contributors to the national treasury.
- Provide Exhibit 1 – if the candidate ask more clarification on the geography or about the company operations or the business overall. If the candidate did not ask, share the Exhibit 1 in Q1.
- Objective: avoid loss of revenue and evaluate mitigation strategies to maintained water level.
- If the candidate asks what is the Panama Canal currently doing, share the Canal has no current action plan.
- Water management definition: for this case, water management means monitoring the water level in the Gatun Lake, the biggest source of water for the Panama Canal and provide potable water to the capital city.

CASE GUIDANCE

This case is an opportunity to challenge candidate beyond market-entry and profitability cases. Candidates are expected to look at the problem in a holistic way. This case challenges candidates with an industry and a problem that is not common. The case is designed to throw the candidate a lot of data from which he or she should funnel down and use what it is necessary to complete the case.

A Good candidate will successfully analyze the data presented, extract the information necessary to perform calculations, and make a final recommendation taking into consideration the external factors affecting the problem.

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

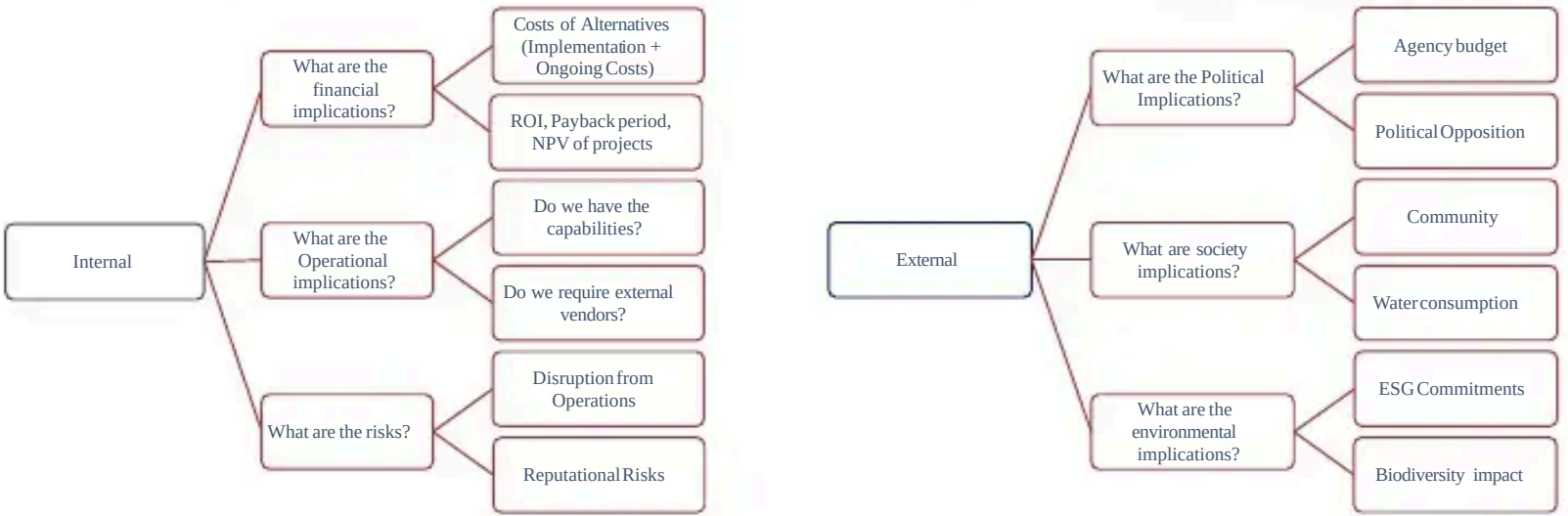
Thirsty for Rain

STRUCTURE GUIDANCE

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

The structure should evaluate internal and external criteria. Internally, financial, operational and risks are some of the criteria to considered. Finally, external considerations should be accounted as well. The external criteria can follow a PESTEL framework (e.g., political, societal, and environmental implications). A great candidate will remember this framework and apply on a case-by-case basis when evaluating alternatives.

SAMPLE STRUCTURE



Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty for Rain

QUANTITATIVE ANALYSIS

Before thinking on alternatives for improving water management, the administrator has asked you to calculate the potential loss of revenue for this upcoming year using last year numbers as assumptions. "El Niño" (a weather phenomena that affects rainfall patterns in the tropic zones) is expected to cause 10 days of operational disruption due to critical low water levels in the canal.

Q1: How much revenue from tolls per ship is the Panama Canal expecting to lose in 2023 due to lower water levels?

Q2: How much revenue from tolls does that represent on an annual basis (2023), considering al previous assumptions?

SOLUTION

The candidate should identify missing information. Provide Exhibits as the candidate asks relevant questions.

If the candidate has not asked about the business model or operations, please provide Exhibit 1.

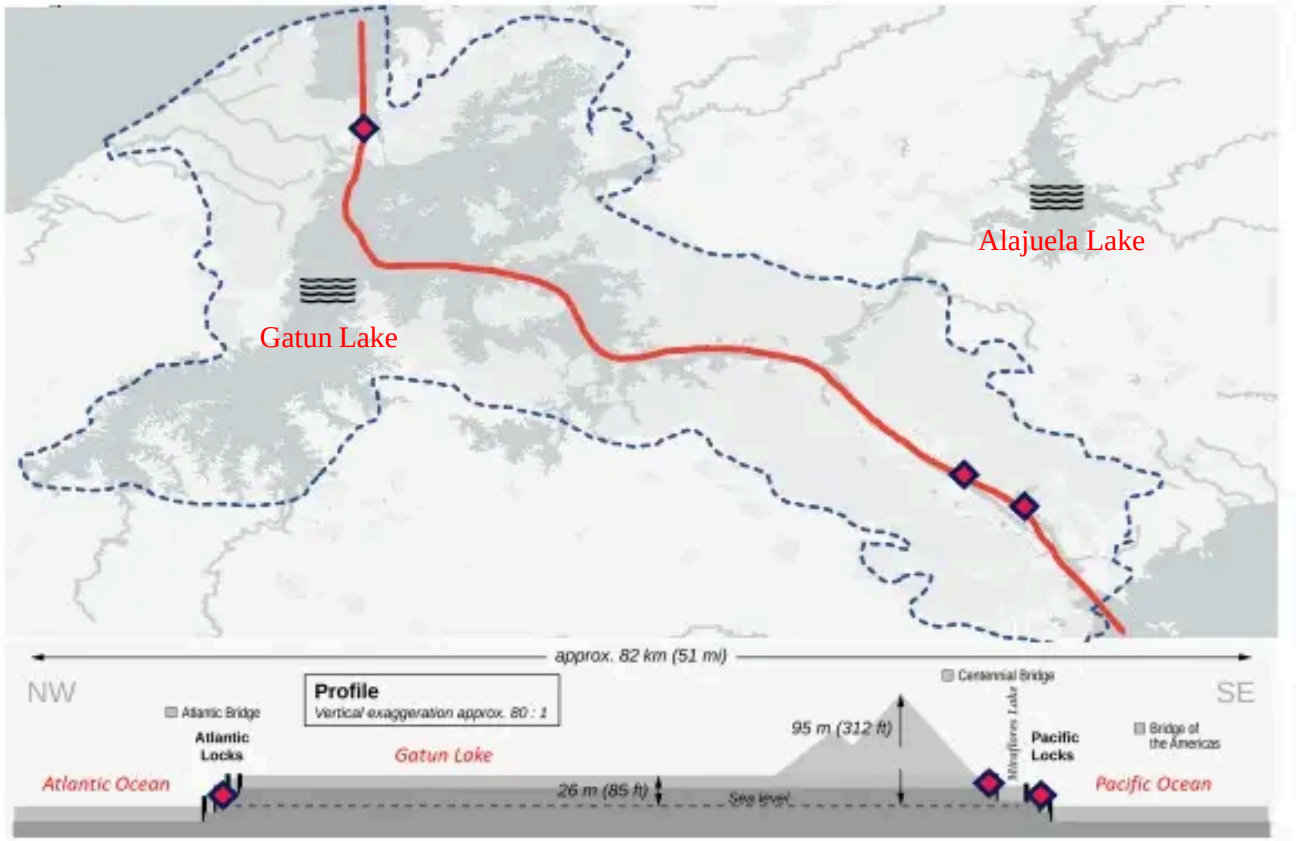
1. From Exhibit 1 – calculate number of ships on an annual basis -> **360 days x 28 ships per day = 10,080 ~ 10,000**
2. If candidate asks for financial information, provide Exhibit 2. (Please see Exhibit 2 chart analysis for possible candidate answers) After analyzing the chart, the candidate should continue to answer Q1. If the candidate is having difficulties, remind the candidate to continue the calculations for Q1.
3. From Exhibit 2 – calculate price per PC/USM per ton -> **$3,000 M (Toll Revenue) / 500 M (PC/USM per ton) = $6 per PC/USM per ton**
4. Next, calculate the avg. PC/USM per ton per ship -> **500 M (PC/USM per ton) / 10,000 ships annually = 50,000 PC/USM per ton per ship on avg.**
5. Q1: calculate the expected loss from revenue toll per ship = **50,000 PC/USM per ton per ship X $6 per PC/USM per ton = $300K per ship**
6. Q2: calculate total expected loss of revenue for 2023 = **$300K per ship x 28 ships per day x 10 days of op. disruption = $84 M**

A Great candidate will notice that the amount of loss revenue from tolls is greater than the annual route investment budget.

EXHIBIT 1– Transit & Operations

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard



Panama Canal Locks

Lakes

Panama Canal Transit Route

Panama Canal Basin (Protected Area)

28 Ship Capacity per day

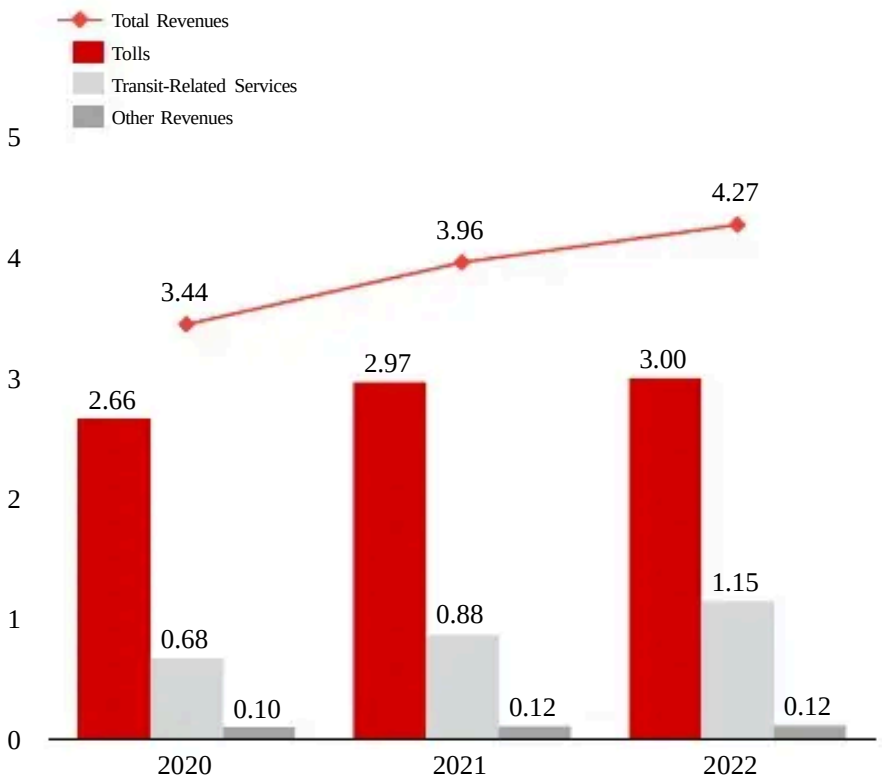
360 Operational Days

80 Million balboas* Route Investment budget** (non-operational)

*Balboa is the national currency denomination in Panama. However, 1 Balboa = 1 USD dollar. Panama uses US D as its legal tender.
**The Route Investment Budget is the budget designated to water management, community outsource, and other non-operational initiatives

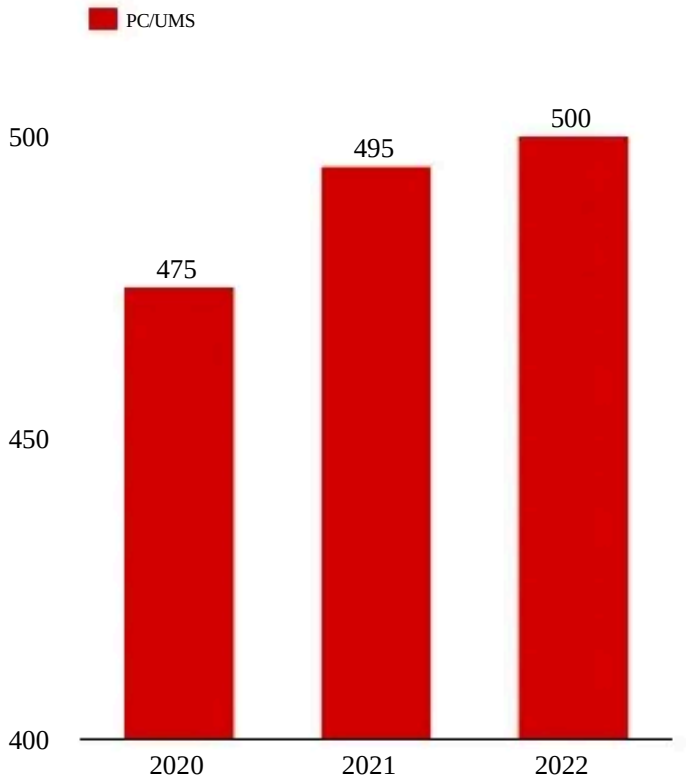
EXHIBIT 2– Financials

Total revenue by source (in billions balboas*)



*Balboa is the national currency denomination in Panama. However, 1 Balboa = 1 USD dollar. Panama uses USD as its legal tender.

Total PC/UMS tons (in millions)



PC/UMS is a unit of measurement. One PC/UMS net ton is equivalent to 100 cubic feet (2.83 m3) o f capacity. The Panama Canal sets its Toll pricing policy per PC/UMS ton.

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty for Rain

SOLUTION– Chart Analysis

EXHIBIT 1– Transit & Operations

Describe the following to the candidate:

1. The Panama Canal main business model is to be a worldwide water tollway that connects maritime trade routes between the Atlantic and Pacific oceans.
2. The Panama Canal Basin is a protected area. 90% of its area is comprised of rainforest.
3. The only two water sources of the Canal are the Gatun Lake and the Alajuela Lake.

EXHIBIT 2– Financials

The candidate should identify the following:

1. **Total Revenue graph:**

A Good candidate will identify:

- Revenues have grown ~20% since 2020.
- Tolls remains the most important source of revenue, accounting ~70% of total revenue

A Great Candidate will:

- Ask for the details of "Other Revenue" – Other Revenue refers to the sale of potable water and electric power, weighted equally.

2. **PC/UMS graph:**

A Good candidate will identify:

- PC/UMS tons have grown by 5% since 2020.

A Great Candidate will:

- Identify the relationship between PC/UMS tons and Toll Revenues and derived the unit price per PC/UMS ton.

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty for Rain

QUALITATIVE ANALYSIS

After sharing your initial calculations on the impact of loss revenue for this upcoming year, the administrator has asked you to analyzed the following data in Exhibit 3. In addition, please provide a recommendation of which is the best alternative for improving water management from Exhibit 4.

Q2: From the options identified, which project would you recommend the Panama Canal Administration?

SOLUTION

EXHIBIT 3- Water Level

The candidate should identify the following:

- In the last decade, water levels have drop from the safe operational level with higher frequency and magnitude.
- Identify that over the last decade water levels depict a higher standard deviation than the years between 2000 and 2013

EXHIBIT 4- Identified Projects

The goal of exhibit 4 is for the candidate to select a combination of the projects and considered the short term and long term implications given the urgency of the matter.

A great candidate should conclude the Panama Canal should invest in cloud-seeding in the short term and start investing in a watershed plan for the long term

EXHIBIT 3– Gatun Lake Water Levels

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

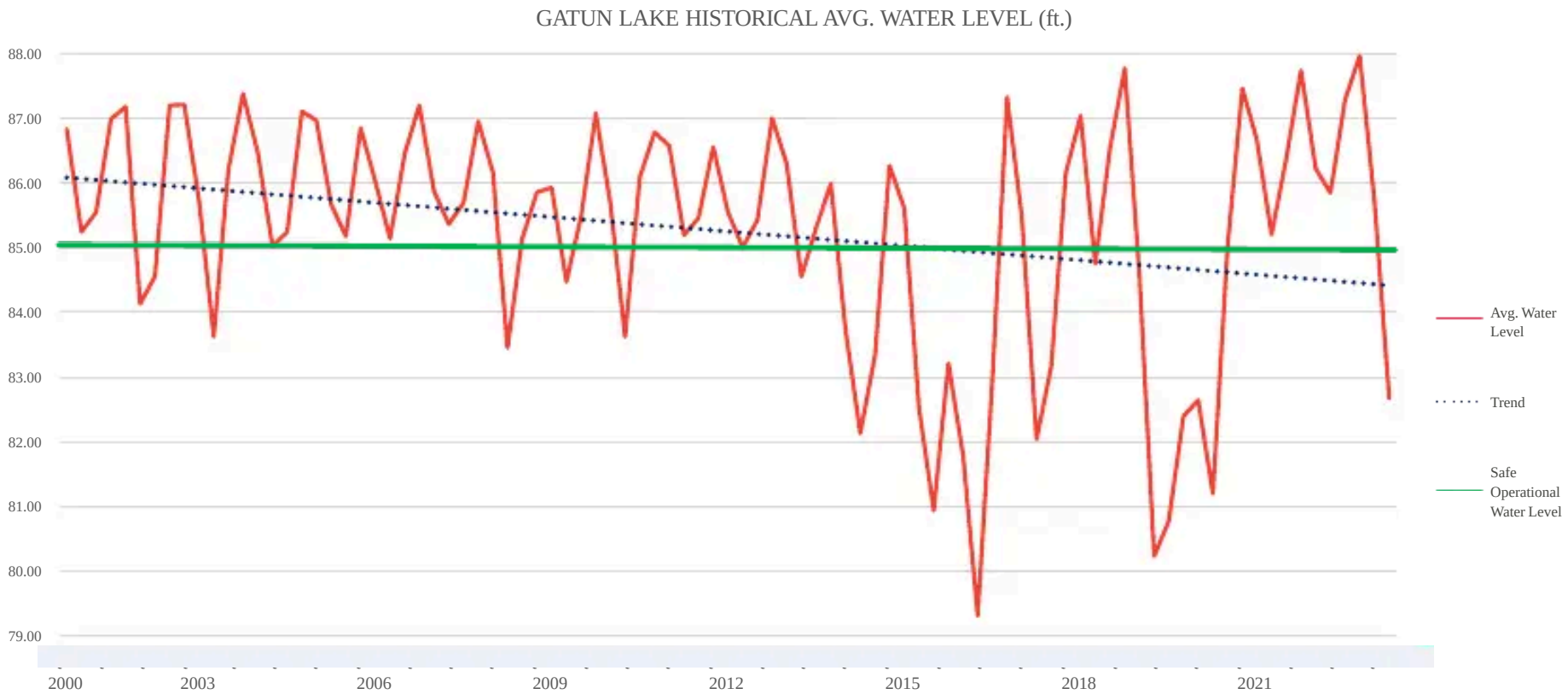


EXHIBIT 4- Identified Projects

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

	Cloud-seeding	Dredging	Watershed Planning
			
Description	Weather modification that aims to change the amount or type of precipitation.	Excavate the bottom floor of the canal to reshape the water route.	Helps attain or maintain water storage, decrease erosion, and creates protected wildlife corridors.
Cost (CAPEX + Ongoing)			
Implementation (Time)			
Water Level Impact (helps achieve 85ft)			
Environmental Impact			

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty 4 Rain

BRAINSTORMING QUESTION

Q3: Beyond the identified solutions presented earlier, what other alternatives (economic, operational or engineering) could the Panama Canal Administration adopt to hedge, mitigate or control water management?

SAMPLE ANSWERS

The idea here is to test the candidate on creativity. These are few ideas but are not exclusively the only ones. The candidate should bring up feasible activities that have economic, operational or engineering sense.

Pricing

Change to dynamic pricing per PC/UMS per ton based on water level

Boat Weight Limits

Limit boat weight per transit, yet this might affect profitability

Pump Ocean Water

Research feasibility of pumping ocean water as a source for the Panama Canal

Scheduling

Invest in weather technology to improve water levels forecast and boat transit scheduling

Maritime and Logistics
Water Management
Cost Reduction

Easy
Medium
Hard

Thirsty 4 Rain

RECOMMENDATION QUESTION

You are meeting with the Panama Canal Administrator to present your solutions, what are your set of recommendations?

SAMPLE RECOMMENDATION

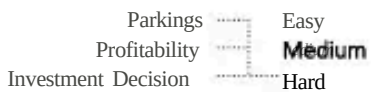
After evaluating the economic impact as well as the qualitative criteria of the 3 solutions identified by your administration, we recommend the following:

1. We recommend to invest in cloud-seeding in the short term and build a long-term watershed plan.
2. Through this actions, the Panama could reduce the probability of operation interruption, which accounts for $8.4M per day of loss revenue.
3. However, beyond implementing the short-term and long-term projects, such as the cloud-seeding and watershed planning, we recommend looking into implementing a dynamic pricing model to economically hedge against water level fluctuations, as well as to invest in R&D for opportunities to use ocean water as water supply source.

We are happy to help you into digging deeper into these analysis.

Parking & Co

By Juan Fernandez Daza (MBA 2023)



Parking & Co

PROMPT

A **tender** to own the concession of a street in Madrid has recently opened and our client is interested on the bid. They have come to us to help them on the bid. The street is **C/Jorge Juan** located in the prestigious neighborhood of Barrio Salamanca.

How much should the client bid for?

CLARIFYING POINTS (if asked)

- Objective: to **payback** the investment within the **next 5 years** .
- Additional info:
  - The **client owns** the concession of **other streets** in Madrid and other Spanish cities.
  - **No financial constraint** , the bid can be as high as we want.
  - The **concession** lasts **8y**.

CASE GUIDANCE

This interview should be like a conversation that is always led by the candidate. The candidate should take the lead, nevertheless, if he/she is pointing in the wrong direction, the interviewer should re-direct without penalizing the candidate.

Once the candidate structures the problem, the interviewer should ask the candidate what information he/she needs to calculate the payback period, and from there show the exhibits. The exhibits should lead to the math, and with these calculations, the candidate must jump into the conclusion.

Parkings
Profitability
Investment Decision

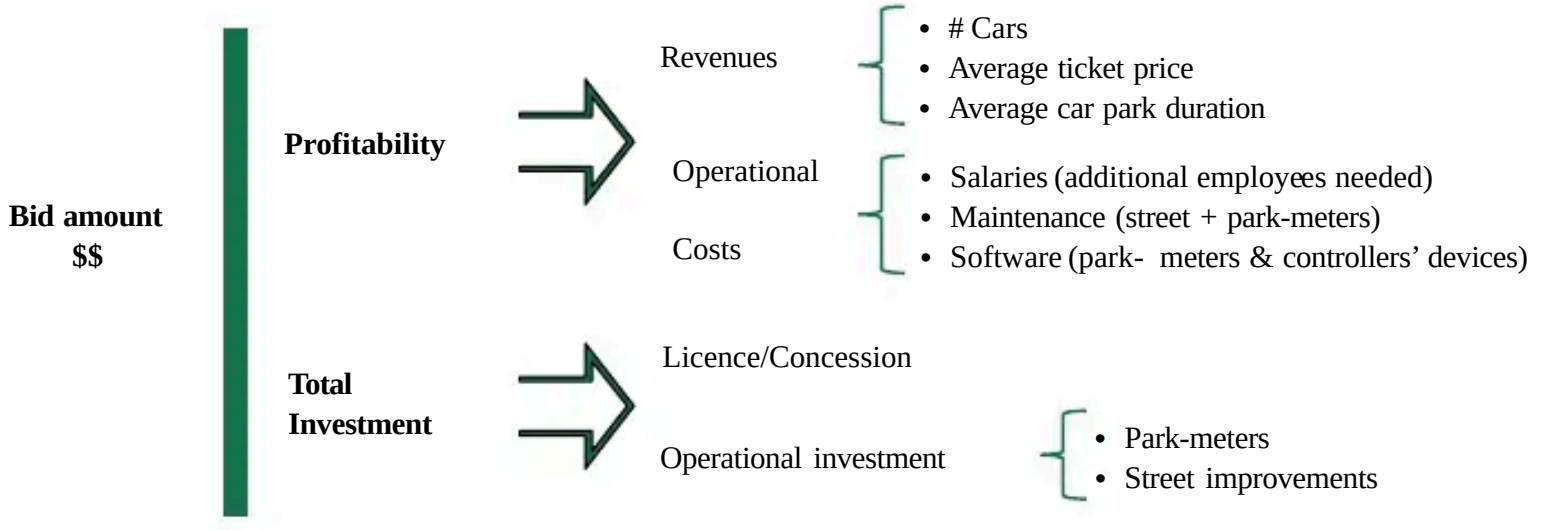
Easy
Medium
Hard

Parking & Co

STRUCTURE GUIDANCE

As in any investment analysis, the candidate should separate the initial investment from the operational revenues & costs from running the business. Having understood that there is a payback period, the candidate should point to that structure

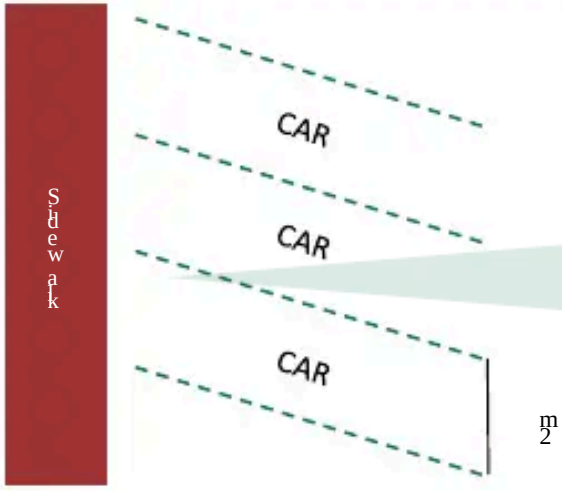
SAMPLE STRUCTURE

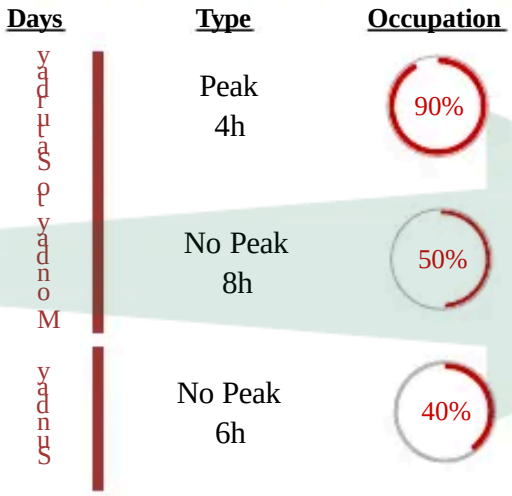


Parking & Co

EXHIBITS – Weekly revenue estimation

Capacity	Occupation	Average Ticket







All cars park perpendicular to the sidewalk

Demand is not flat in a weekly basis but all the weeks are equal

All cars park just 1h/day

Parking & Co

QUANTITATIVE ANALYSIS

Provide upon request!!

- Street's details:
  - 600m where cars can park both sides – though only **400 effective meters to park on each side**
    - Due to parking entrances, garbage containers, terraces… etc on the street (**the candidate must conclude this on his/her own**).
- There are two parking areas blue and green – residents can park in the green area, but we **can ignore residents to simplify** .

A good candidate identifies:

- There are different occupation rates depending on the day/hour – though we will ignore it to simplify calculations
- The street has two sides to park in but not 100% of the street is " parkeable "

Revenue estimation

Parking capacity: 400m x 2 sides x 1 car /2m = 400 cars

Total cars/week **:** 48h (see below) x 400 cars/h = 19.200 cars/week

- Mon-Sat average occupation: 4hx90% + 8hx50% = 3.6+4 = 7.6h/d => 6d/wk x 7.6h/d = 45.6h/wk
- Sunday average occupation: 2.4h/wk

Total revenues : 19.200 cars/week x 3€/car x 50w/1 yr ~ **3M€/year**

Parkings
Profitability
Investment Decision

Easy
Medium
Hard

Parking & Co

BRAINSTORMING QUESTION – Operational costs

The candidate must identify three main cost items – challenge the candidate to find them all, you may give some hints:

- Maintenance – both street and park-meters = 0.9M€/year
- Salaries – only new staff needed, only inspectors = 3x30k€ = 90k€/year
  - How many people needed? Minimum 3 inspectors
  - Salary per inspector ~30k€/year
- Software – both park- meters and inspector's devices: 10k€/year

Total operational costs in a year = 0.9M + 90k + 10k = **1M€**

THE ANSWER

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- CONTRIBUTION MARGIN: 2M€
  - Operational Revenues: 3 M€
  - Operational Costs: 1 M€
- INITIAL INVESTMENT: License + M€
  - License: Unknown
  - Machinery: 1 M€ **(the candidate must identify this item, then provide)**
- PAYBACK PERIOD: 5 years

Max to pay for the license: 9M€ = 5yr (2M€/yr) − 1M€

Parkings
Profitability
Investment Decision

Easy
Medium
Hard

Parking & Co

RECOMMENDATION QUESTION

We have found out that there are more bidders to the tender. What would you propose the client to do?

SAMPLE RECOMMENDATION

If we think that the tender is going to be tight, we could increase the offer of 9 M€ that we have calculated that we can shoot. How?

- **Increase the payback period** – suggest to increase the period to 6-7y and still have decent profits on the 10y contract. Though only if the payback period is not a super red line for the client.
- **Improve the operational margin** :
  - Revenues => Increase the price during the peak hours
  - Costs => Synergies may bring efficiency: 1) Optimize salaries using already hired personnel and/or 2) Reduce software fee per parking leveraging that we will have one more parking to operate.

I recommend the CEO to bid for 10- 11M€ to have some buffer to mitigate the risk of losing to competitors.
Next steps? Deeper analysis on the suggestions on the synergies to increase the the bid.

The Flying Metro

By Gianmarco Bertelli & Mohamad Yassine (MBAs 2024)



Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

The Flying Metro

PROMPT

Your client "Y Invest" is a Private Equity (PE) firm that is considering to **buy the rights** to **construct, build and operate** a **solo** metro line that would connect Times Square in Manhattan (the City Center) to JFK Airport (major airport and one of the world's busiest airports) in New York. The line operates in both directions (from & to the airport). The firm has hired you to help them determine whether this is a good investment opportunity or not?

CLARIFYING POINTS (if asked)

- The goal is to have a **positive NPV** and to sell the asset the first year that is ready to operate
- We forecast that the construction time will be of 1 year.
- **No other metro lines go from the City Center to this airport**
- Initial Investment is not an issue
- 2 Major companies are competing with us
- The PE firm has an expertise and has a focus on metro/subway projects
- There are 3 Major Airports in NYC – Just focus on JFK for this case, others are not relevant
- There are 4 Runways at John Kennedy (JFK) International Airport
- Assume that the PE firm has the rights to operate the project for 99 years (only needed for perpetuity formula later on)

CASE GUIDANCE

Market Sizing on the supply side is one of the key points that is tested (don't start with population)

No PE experience is required

No rounding is allowed, numbers should be calculated accurately

Time: 35 mins

The Flying Metro

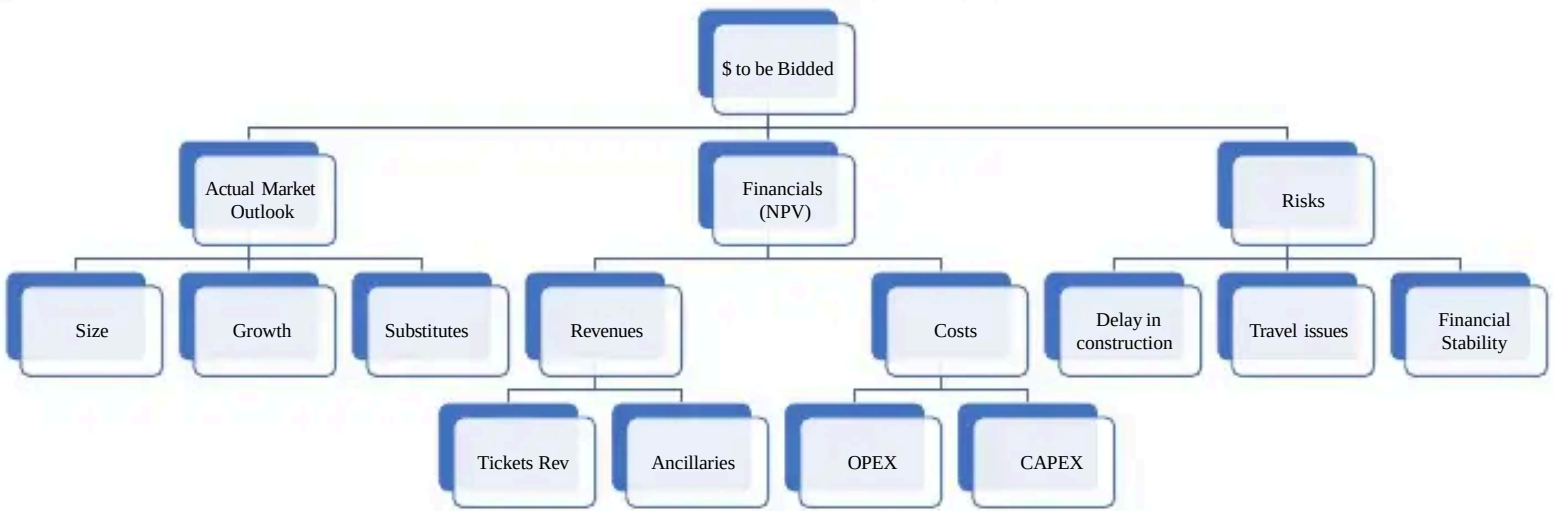
Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

STRUCTURE GUIDANCE

The focus of the case is for the interviewee to give a MECE structure with Market, Financials & Risks Buckets. The Market Branch is the most important/relevant since it is necessary to compute the expected Revenues and Profits of this project (Market Sizing). The candidate isn't expected to dig deep on all branches.

SAMPLE STRUCTURE



The Flying Metro

Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

MARKET SIZING GUIDANCE

- A good candidate would approach this market sizing by looking at supply side (how many planes can land in the airport, # of runways, operating hours…)

Market Sizing Data to be provided when asked

- # of Runways in JFK = 4
- Average Time for Landing/Departure per plane = 5 mins
- # of Operations Hrs/Day for JFK = 20 hrs/day
- # of days/year = 350 days (some days there are strikes or bad weather)
- Utilization of Planes = 83.33 % (Hint: It's 5/6) – They should know it by now
- Average # of people/plane = 180 seats (let the person calculate as per the below)
  - # of rows/plane = 30 rows
  - # of seats/row = 6 seats/row
- % of people who are just transiting (not leaving the airport) = 33.33% (Hint: 1/3)

of Planes/Runways/day = Opening Hrs * 60mins/hr / Avg. Time per plane=240
of Planes/Day = # of Runways X # of Planes/Runways/day=960
of people/plane = Avg. # of ppl/plane x Utilization %=150
of people leaving the airport = # of ppl/plane X # of Planes/day X (1- % Transiting) = 96'000
Multiply the above by 350 days to get the annual traffic=33'600'000

A good candidate would start to brainstorm on the possible ways passengers can commute to Manhattan:

- Taxis/Ubers
- Buses
- Pick Ups (Family/Friends/Hotels)
- Walking (not realistic but creative)

→ Proceed to Exhibit 1

The Flying Metro

EXHIBIT 1

Mean of Transp.	Price	Waiting Time	Overall Satisfaction (over 10)	% Of usage
Taxi	$ 35	12 mins	9	22%
Uber/Lyft	$42	8 mins	8	22%
Bus	$21	15 mins	8	23%
Pickups*	$15	25 mins	5	33%

* Price for Pickups is the price paid to the airport parking while waiting for passengers

The Flying Metro

EXHIBIT 1

Mean of Transp.	Price	Waiting Time	Overall Satisfaction	% Of usage
Taxi	$ 35	12 mins	9	22%
Uber/Lyft	$42	8 mins	8	22%
Bus	$21	15 mins	8	23%
Pickups*	$15	25 mins	5	33%

SOLUTION

A good interviewee should deduce the following:

- Although the pickups is the cheapest the overall satisfaction is the lowest
- The Overall Satisfaction for the Taxi, Uber & Bus isn't that varied
- Price, Waiting Time and Overall Satisfaction are correlated in all categories except Pickups where the Satisfaction is low

A great interviewee should point out that if priced well the easiest mean of transportation to tackle is Pickups (customer are not satisfied by that) this mean has also the highest penetration in the market. As follow up the candidate could should out that this can give us an idea on how to price the tickets.

If not tell the candidate that we decided to target pickups and move to the second brainstorming session.

Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

The Flying Metro

Our research team found that with a subway departing every 10 mins the customer satisfaction will be 7.
How would you price the tickets?

BRAINSTORMING ON TRAIN TICKET PRICES

A good candidate will point out that there are 3 main way to price a ticket:

- Cost Based
- Value Proposition / WTP: Willingness to Pay
- Comparable / Competition

Given the information from the previous exhibit any price between $15 & $21 is logical

Provide the candidate that we will price the ticket to 15$/trip and that this will capture all the Pickups market (1/3 of the total market).

A good candidate will now refer to the structure and proceed to the computation of the ROI.

Use the perpetuity formula to solve for NPV; you can give it to the interviewee if he/she doesn't know it
Perpetuity formula = (Net Profit/Loss per year) / (Interest rate – growth rate)

Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

The Flying Metro

Data to be provided by the interviewer:

Capex = $ 2’000M

Opex = $ 68M

Interest Rates = 8%
Growth = 3%

The PE fund will use the perpetuity formula to evaluate the investment.

SAMPLE ANSWERS

Revenues	Price*Market Size*Market Capture 15*33.6M/3=$ 168M
OPEX	- $68M
Profit/year	**$ 100M**

Perpetuity formula= 100M/(Interest rate – growth rate)=2’000M

By that we deduce that the NPV = 0

Airlines/Infra
Profitability
Market Sizing

Easy
Medium
Hard

The Flying Metro

RECOMMENDATION QUESTION

Julia Dixon the Managing Director of the PE Fund is here, what do you recommend?

SAMPLE RECOMMENDATION

Given the 0 NPV of the project there is not a "correct" recommendation. Here the candidate should demonstrate the ability to refer to its structure and to introduce in its recommendation the risks that have not yet been included, the possibility to lower up the total investment to be made thanks to government involvement since this project can reduce CO2 emissions…

Recommendation Sample: Proceed with the project

Why:
1) NPV is not negative
2) Great branding to have such an asset in our portfolio

Next Steps:
1) Check if we can have more revenue streams and optimize costs
2) Hire construction company

Risks:
1) Interest rates might fluctuate
2) People will not use the metro and new means of transportation such as bikes or scooters will appear

Fixing Silverland

By Nicolas Fernandez Lavalle (MBA 2023)



Economic Development
Strategy
Public Sector

Easy
Medium
Hard

Economic Development
Strategy
Public Sector

Easy
Medium
Hard

Fixing Silverland

PROMPT

The government of Silverland, an imaginary South American nation, has approached us requesting a consultation. Upon taking office in 20x5, they promised to combat inflation. However, by 20x8, the country still grapples with high inflation rates (over 40%) and widespread public dissatisfaction. Silverland's government recognizes its substantial public deficits, mainly financed with currency issuance, but has found it challenging to address them without generating negative public reactions to cost-cutting measures. In search of a solution to this crisis, the government is considering seeking assistance, potentially including financial support from the International Monetary Fund (IMF). With an election looming in 20x9, the current administration aims for a victorious outcome.

How can the President of Silverland effectively address the ongoing crisis and stabilize its economy?

CLARIFYING POINTS (if asked)

- Context - How much debt the currently government has? – Very little, you can assume current external debt is $50bn (Only 10% of GDP - $500bn)
- Objective - What is the main objective of the government? – Implement a plan that will sustainable close the fiscal gap without increasing inflation
- Country structure – The country produces mainly agricultural products and no immediate productivity shocks or growth solutions are expected

CASE GUIDANCE

If the candidate lacks a fundamental understanding of economics, kindly guide them in comprehending (without explicitly telling them) the balancing act governments face between printing money to finance the gap between expenditures and tax revenue, in order to maintain political backing, which can result in inflation. On the other hand, a government may choose to finance this deficit by issuing external debt, but doing so could jeopardize the nation's future capacity to repay its obligations.

Fixing Silverland

STRUCTURE GUIDANCE

This is an interviewee led case. The candidate should be framing the problem towards the solution addressing several factors.

- Understanding the fiscal gap – Not attempting to understand what is causing the problem can be considered a mistake
- Macroeconomic indicators (interest rates, GDP growth, etc.) Not measuring the problem can be considered a mistake
- Social and political implications – A serious mistake would be to avoid considering impact on the society or in the public opinion (elections result)
- Stakeholder mapping – A nice to have would be an idea of stakeholder mapping in order to assure potential allies (International organisations, other governments, internal parties, etc.)

SAMPLE STRUCTURE

What are the Government Revenues?

- **Tax Collection**
  - Tax Rate (How much do I charge)
  - Tax Base (To how many people do I charge)
- **Public Companies**
- **Other income (Sell of assets)**

What are the Government Expenses?

- **Public Services (Education, Healthcare, Defense, etc.)**
- **Employees**
- **Social Subsidies (Transfer to lower income population)**
- **Economic Subsidies (Transfer to companies)**

What are the current financing tools?

- Currency issuance
- Public Debt (Debt level, Interest rate)

What is the impact of closing the gap?

- **Economic results (Productive sector winners and losers)**
- **Social results**
- **Political outcome**
- **International community trust/reputation**

Fixing Silverland

BRAINSTORMING QUESTION

Can you think of some potential solutions to tackle the fiscal deficit problem?

SAMPLE ANSWERS

Increase revenues

- Increase tax rate
- Increase taxpayer number
- Create new taxes
- Increase economy (Increase tax base to collect more with the same rate)

Reduce expenditures

- Eliminate public companies
- Eliminate subsidies to companies
- Eliminate subsidies to people
- Improve public sector efficiency (More technology)
- Reduce the number of public employees

Finance the deficit in a different way

- Request assistance to IMF
- Request assistance to private sector

Fixing Silverland

EXHIBITS (I)

We have met with our experts in the subject and they presented some of the following information to us:

Exhibit 1: Historic relationship between inflation, debt and currency issuance

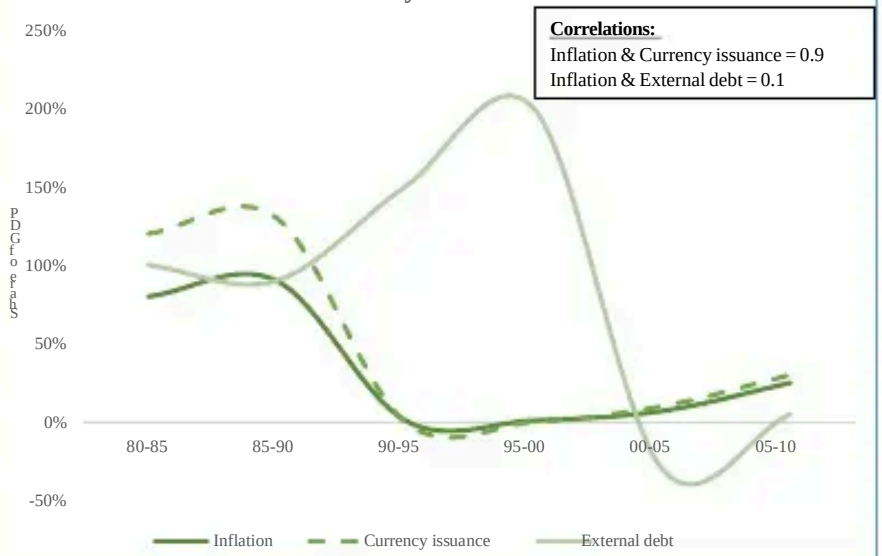
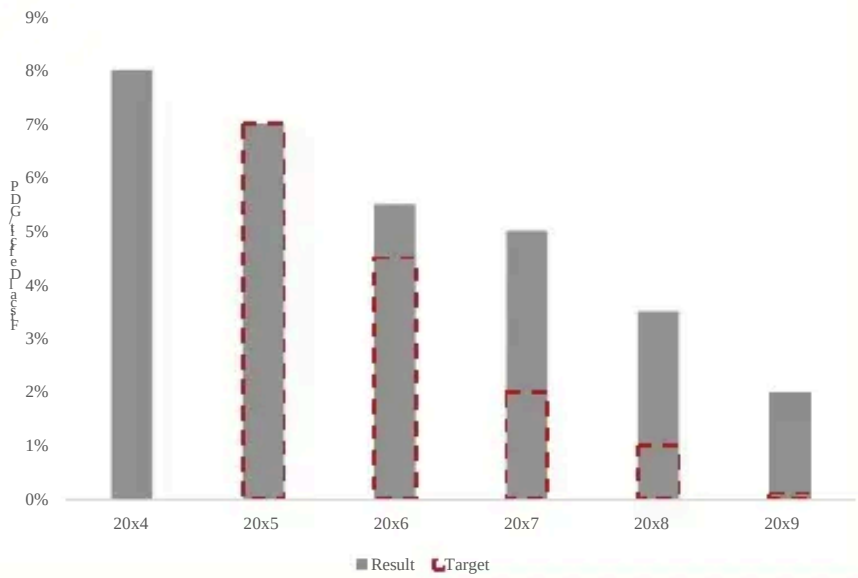


Exhibit 2: Fiscal Deficit and targets



Fixing Silverland

EXHIBITS (II)

We have met with our experts in the subject and they presented some of the following information to us:

Exhibit 3: Cost of debt & Social Perception Polls

	Private Debt	IMF
Cost (Interest rate)	18%	4%

After being showed the above chart, people responded the following to two questions

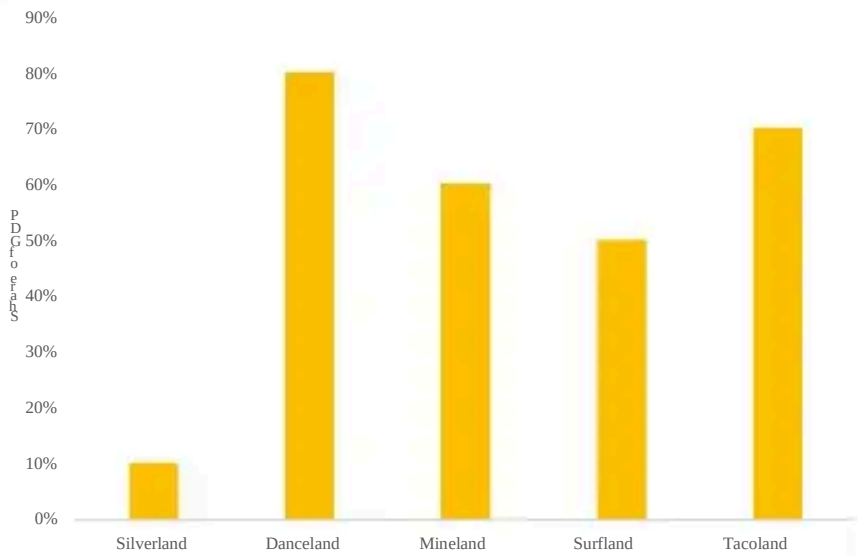
Poll 1: How do you perceive IMF to help Silverland?



Poll 2: How do you perceive Private Debtors to help Silverland?



Exhibit 4: 20x8 Debt in Neighbour Countries (% of GDP)



Fixing Silverland

CHART ANALYSIS

From the four graphs the candidate should come to the following conclusions:

Key takeaways from the graphs should be:

1) Inflation is correlated highly with currency issuance and **not** correlated with external debt
2) The fiscal deficit has been reducing, but not fast enough to meet already set targets
3) Private Debt is unknown in society (possibility of taking the debt without impact in the society) while going to the IMF is very negative for people. Still, going to the IMF is much cheaper.
4) Debt levels in Silverland seem to be way lower than in neighbour countries which indicate that there is room to take more debt

Outstanding candidates should point out the following ideas:

1) Financing the gap with public debt seems to be a short term alternative to reduce inflation by cutting currency issuance
2) There is a limit to public debt issuance as that can be riskier for the country
3) Why has Silverland not taken more debt? Is it feasible for them to do it? (Is Silverland creditworthy?)
4) A political sense of the trade-off between winning elections next year (keeping the fiscal gap) and accomplishing the economic objectives would be highly valued in the case (IMF has a higher negative perception in society and might harm chances for elections).

Fixing Silverland

QUANTITATIVE ANALYSIS (i)

If the candidate does not propose it on its own, guide them to calculate the fiscal gap:

Silverlandhas four main areas to finance in it's budget: Healthcare and Wellbeing (HW), Education and Research (ER),Defense and Security (DS) and Infrastructure & Development (ID). Total fiscal income in Silverland is $133bn. HW represents 20% of fiscal income, ER represents 30%, DS represents 10% and ID represents 35%. Each area gap is measured independently, so some have deficit and others do have superavit. HW has expenditures of 1.5 times their budget, ER has 1.3 times their budget, DS has 1.2 times their budget and ID has superavit, spending 0.97 times its budget. Calculate the gap (round to two decimals).

PROPOSED SOLUTION

Weak candidates will aim to linearly calculate the fiscal deficit. Strong candidates will find out that multiplying share and gap size is quicker:

- **HW: 20% x (1.5 − 1) = 20% x 0.5 = 0.1**
- **ER: 30% x (1.3 − 1) = 30% x 0.3 = 0.09**
- **DS: 10% x (1.2 − 1) = 10% x 0.2 = 0.02**
- **ID: 35% x (0.97 − 1) = 35% x - 0.03 = - 0.01**
- **Fiscal gap: (0.1 + 0.09 + 0.02 - 0.01) x $133bn = 0.2 x $133bn = $26.6bn**

Fixing Silverland

QUANTITATIVE ANALYSIS (ii) - Optional

Now present the two options to the candidate and calculate each cost (IMF and Private Sector). Assume no time value of money and 5 years loans:

- Fiscal Gap: $26.6 bn
- Current public refinancing needs in the next 5 years: $14bn
- Safety margin for the next 5 years deficit: $9.4bn
- Costs: Private Debt 18% and IMF 4% (If they don't remember from the graph)

Calculation:

Total Gap: $26.6 bn + $14bn + $9.4bn = $50bn

Cost of Private Sector: $50 x 18% = $9 (Per year)

Cost of IMF: $50 x 4% = $2 (Per year)

Calculation:

Cost of Private Sector = $9 x 5 = $45 bn in 5 years

Cost of IMF = $2 x 5 = $10 bn in 5 years

After arriving to the result, an outstanding candidate would associate this numbers with either GDP levels ($500 bn), current debt $50bn, or any intuition of how much this debt is. They should come to the conclusion that **Private Debt is too expensive.**

Fixing Silverland

BRAINSTORMING QUESTION (ii) - Optional

Can you think of potential risks of asking money to the IMF?

SAMPLE ANSWERS

IMF Conditions

- Loss of autonomy
- Higher debt burden
- Austerity measures
- Currency management conditions

Reputation

- Stigma associated with IMF Assistance
- Internal social rejection to the program
- Creditors negative perception to increase financing in the future

Economic Development
Strategy
Public Sector

Easy
Medium
Hard

Fixing Silverland

RECOMMENDATION QUESTION

What would you advice to the president of Silverland?

SAMPLE RECOMMENDATION

Most typical answer will include:

Recommendation:

A) Go to IMF and request for $50 bn to cover the financial needs

Reasons:

1) That is enough to cover the fiscal gaps and avoid the discontent from expanding the public opinion disappointment
2) It shifts pressure away from currency issuance and inflation
3) Is much cheaper than private debt

Risks:

1) The debt burden can start to pile up
2) The public opinion might react poorly to the strategy

Next steps:

1) Establish a solid electoral strategy to win next term and accelerate the reforms to reduce fiscal gap

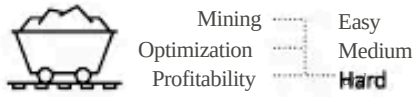
ALTERNATIVE RECOMMENDATION

Alternatively, the recommendation can suggest:

A) Do not ask for debt and close the fiscal gap immediately. To accept this recommendation it needs to come with an idea of how to deal with social discontent.

TBell Mining

By **Javier deArquer Rilo (MBA 2024)**



Mining Optimization Profitability

Easy
Medium
Hard

TBell Mining

CURVEBALL QUESTION

You have a car in a racetrack. The car completed the first lap, and the average speed was 20km/h. What should be the speed of the second lap so as the average speed of the 2 laps is 40km/h?

SAMPLE ANSWERS

I got this question in a Kearney Madrid interview. It was the starter of the interview and set the mood for the rest of the case

This problem has no solution. The solution is that is not possible. There are multiple ways to solve it, the next one is a sample:

- Let's assume that the circuit has a dummy distance of 100km. Does not matter which number you choose here
- The time of the first lap at 20[km/h] is 1[lap]·100[km/lap] / 20[km/h] = 5h
- For the average speed to be 40km/h the total time should be: 2[laps] · 100[km/lap] / 40[km/h] = 5h
- This means that the car already consumed all the time in the first lap and therefore should do the second lap at infinite speed

TBell Mining

PROMPT

Everything that is not cultivated or fished has its origin in a mine. Your client is a mining company that extracts rocks from an open pit in the mountains.

The company is experiencing difficulties in optimizing its production process. On the one hand, their facilities are at top capacity working 3 shifts per day working at almost 100% capacity utilization.

On the other hand, the finer products are piling up (more than 500 000t) since the mine necessarily produces fine particles in the milling process.

The client wants your consulting team to help them identify and evaluate the best solutions to optimize their production process and increase their output while driving profits up.

CLARIFYING POINTS (if asked)

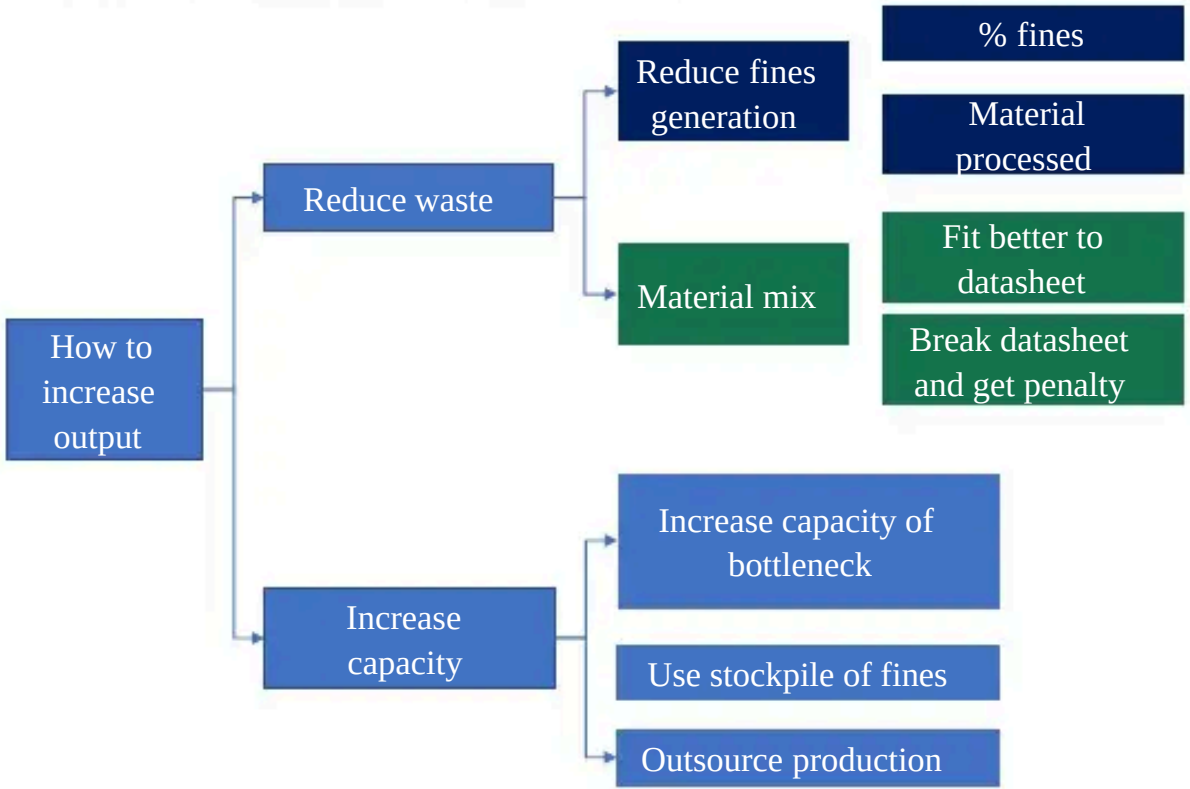
- The mining company has been **operating for several years** and has a well-established production process
- The **production process** consists of several stages, including drilling, blasting, crushing and screening. Once the mountain is blasted, they mineral is crushed into smaller pieces and then classified into the different products
- A **product** is considered a range of grain sizes. For example, 8-17mm (rocks from 8 to 17 mm), 50-150mm, etc. Every product must comply with a technical datasheet (TDS) that stablish thresholds for the different grain sizes. If not met, TBell faces a penalty from the client.

CASE GUIDANCE

- This is ideated as an interviewee led case
- The candidate is not likely to know all the clarifying points, necessary for the following steps. Therefore, in this case **questions are really important**
- The case makes the candidate 1) understand how open pits work 2) identify what are the products in mining industry 3) generate hypothesis on the potential causes 4) quantify the impact on the business 5) propose solutions
- The case tries to test the candidate's curiosity and ability to generate assumptions. Moreover, the candidate should get familiar with the mining concepts fast thus showing ability to adapt and be flexible

TBell Mining

SAMPLE STRUCTURE



STRUCTURE GUIDANCE

- The candidate can come up with multiple structures that are very different from this one as it is not a typical structure
- However, some ideas as classification, and reducing the fine generation in the process should pop up
- The candidate should also think about increasing the capacity of the system to be MECE

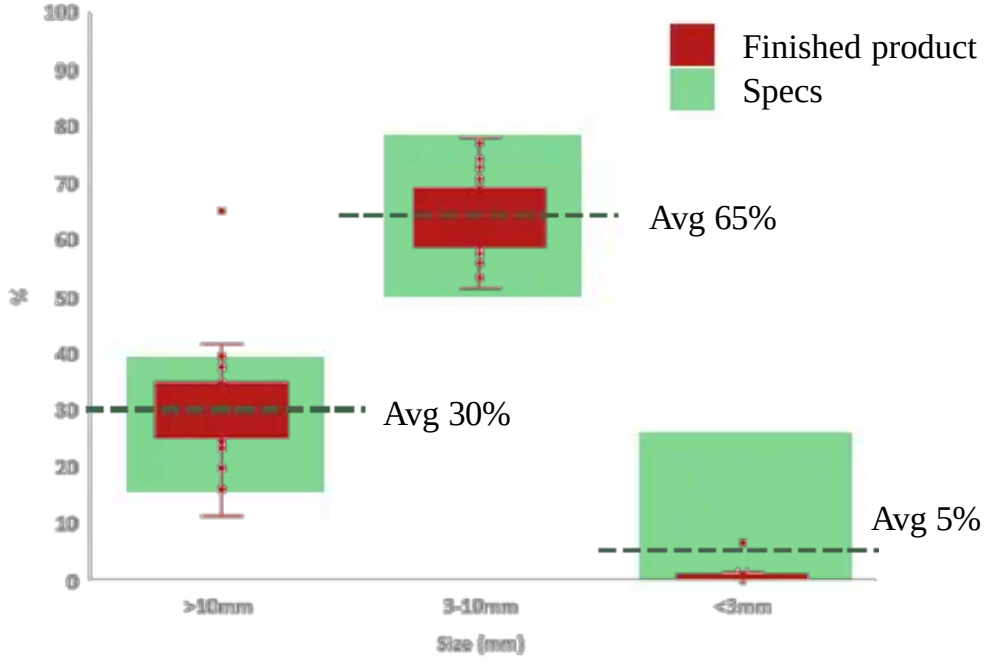
TBell Mining

EXHIBIT 1– 1/10 mm product

Yearly production of 1/10mm: 500 000t
Cost: 2€/t
Sale Price: 6.5€/t

TECHNICAL DATA SHEET

From (mm)	To (mm)	Threshold min (%)	Threshold max (%)
0	3	0	25
3	10	50	80
10	-	15	40



TBell Mining

EXHIBIT 1– 1/10mm product

- When presented the information of exhibit 1 the candidate should highlight that there is room for improvement in the fit of the production to the datasheet
- In this graph it is visible that TBell has room to include more fine particles in the product. Since the amounts of particles smaller than 3mm is way below the threshold. This solution would drive production up as well as reducing the problem of the pile of the fines
- It is also visible that some of the samples are out of the specs for the particles greater than 10mm
- The interviewer should ask the candidate for an estimate of the potential extra **profit** that can be generated after including the maximum number of fine particles

CALCULATION 1: HOW MUCH CAN TBELL INCREASE ITS PRODUCTION IN TONS PER YEAR?

The production can include up to 25% of fines and currently includes just 5%. There are 2 Scenarios, either >10mm is the limiting fraction or 1-10 is the limiting fraction:

baseline

	>10	1-10	<1
PERCENTAGE	30%	65%	5%
kt	150	325	25

500kt

1-10mm limiting

	>10	1-10	<1
PERCENTAGE	25%	50%	25%
Kt	162.5	325	162.5

650kt

>10mm limiting

	>10	1-10	<1
PERCENTAGE	30%	65%	5%
kt	150	325	25

1000kt

CALCULATION 2: HOW MUCH EXTRA PROFIT CAN BE GENERATED?

- If the production of particles 1-10 mm is the limiting factor, the extra profit would be (650-500) [kt]*(6.5-2) [€/t]= 675 000 €
- If the production of particles >10 mm is the limiting factor, the extra profit would be (1000-500) [kt]*(6.5-2) [€/t]= 2 250 000 €

TBell Mining

EXHIBIT 2– 1/10 mm production

PRODUCTION BEFORE SCREENING

From (mm)	To (mm)	(%)
0	3	20
3	10	60
10	-	15

PRODUCTION AFTER SCREENING

From (mm)	To (mm)	(%)
0	3	5
3	10	65
10	-	30

TECHNICAL DATA SHEET

From (mm)	To (mm)	Threshold min (%)	Threshold max (%)
0	3	0	25
3	10	50	80
10	-	15	40

TBell Mining

EXHIBIT 2– 1/10mm production & final recommendation

- The candidate might ask more information about the screening of the material (the process where they separate the different sizes). This exhibit presents that information
- In this exhibit, the candidate should spot that there the fine particles are taken out of the finished product
- This is the reason why the company is piling up the fine material
- By updating the screening, the company can achieve a double win.
    - On the one hand, TBell would increase the production as seen in the previous exhibit.
    - On the other hand, TBell would manage to reduce the stock pile of fine material. Observe that the threshold for fine material is 25% and the production is just 20%. That difference would allow for a

SAMPLE RECOMMENDATION

- The candidate should be able to spot the low hanging fruit coming from the mismatch between the production and the datasheet
- The expected increase in profits ranges from 0.65 M€ to 2.25 M€ and the increase in production (from 500kt to 650kt to 1000kt)
- The candidate should notice that the screening is the cause of the problem
- The future steps might include an analysis of the implementation, a real time quality control that ensures that production and datasheet match.

Employee Vaccination Benefits

By Alex Pont (MBA 2024)



Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

PROMPT

Our client is a **large Pharma manufacturer** that is looking to boost sales of its Dengue vaccine by adding vaccine coverage to company **Employee Benefits.**

The vaccine requires **two doses** , has a **price of $300 per dose** and is only effective for those **aged 13-35** . Employers would offer a **pre-paid 50% vaccine subsidy** to employees (e.g., a voucher to be redeemed at certain clinics).

The CEO has hired us to answer the following key questions:

1. In **which markets within Asia-Pacific region** would Employee Vaccination Benefits be an attractive opportunity?
2. What is the **"size of the prize" of the opportunity** in prioritized markets?
3. **How should the company opertionalize** the opportunity in prioritized markets?

CLARIFYING POINTS (if asked)

- Currently, patient access to vaccines generally occurs through **public National Immunization Programs** (NIP) or **private out-of-pocket clinics.** Our client believes there is an opportunity to fill the gap between these two segments by **adding vaccines to Employee Benefit Programs.**
- Employee benefits include various types of **non-wage compensation** provided to employees in addition to their normal wages or salaries.
- "Employee Vaccination Benefits" could **take several shapes or forms,** including (1) vaccine discounts for employees, (2) vaccine coverage included in Group Insurance plan, (3) on-site vaccination days etc. For simplicity, we assume that employers would offer a **pre-paid 50% vaccine subsidy to employees** (e.g., through a voucher to be redeemed at certain provider clinics).
- Note that while this type of Employee Vaccination Benefits is already quite common for the seasonal flu / influenza, our client **does not have a flu vaccine in its portfolio** . Their focus is primarily to grow sales of their Dengue vaccine (two dose vaccine), suitable for **males & females from 13-35 years.**
- Dengue is a viral infection caused by the dengue virus, transmitted to humans through the bite of infected mosquitoes. It has emerged as the most widespread and rapidly increasing vector-borne disease worldwide.

CASE GUIDANCE

The objective of the case is to test the candidate's ability to structure a specific problem with a tailored approach and ask the right questions, rather than applying general cookie-cutter frameworks. It has a good mix of qualitative and quantitative components. The case is not designed to test specific knowledge of the Asia-Pacific region, healthcare industry or employee benefits landscape.

Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

[Part 1] STRUCTURING QUESTION: Shortlisting priority markets

Question: What dimensions / Key Success Factors (KSFs) can be used to assess the attractiveness of each market within the Asia-Pacific region?

Note for interviewer: Highlight early on that this is not an exercise to "test" the knowledge of specific markets, but to see how candidate would conceptually approach this market prioritization exercise (without having to crunch the numbers or make an actual decision). An understanding of the Asia-Pacific region is not required. At the end of exercise, mention that **Singapore has been selected as the "pilot" market**

SAMPLE STRUCTURE

There is no "standard" framework to apply here – candidate should think from "first principles" about what are the KSFs to consider, such as:

1) **Workforce dynamics in that market** – ideally a large workforce, high proportion of foreign / expat workforce (with more attractive benefits offering), high prevalence of multinational / large companies and industries with generous Employee Benefit offerings (e.g., tech, finance)
2) **Public healthcare coverage in that market** – ideally low public healthcare coverage and weaker public National Immunization Programs, with gaps in coverage and enforcement
3) **Consumer awareness and latent demand in that market** – ideally low vaccination rates (i.e., room for growth), positive sentiment towards vaccines (i.e., lack of vaccine hesitancy), and high prevalence of vaccine-preventable diseases (e.g., Dengue)
4) **Prevalence / richness of Employee Benefits in that market** – ideally rich Employee Benefit offerings, paternalistic approach/culture of employers towards employees, appetite for preventative health & wellness
5) **Strengths of partner ecosystem to operationalize this new segment** – ideally large/mature Private Health Insurance players, prevalence of regional employer brokers, large/mature provider clinics or corporate health providers
6) **Existing capabilities of the Pharma company in each market** (e.g., previous experience, local capabilities)

Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

[Part 2] QUANTITATIVE ANALYSIS: Estimating expected revenue in pilot market

Question: What is the "size of the prize" (in terms of revenue) of the opportunity in Employee Vaccination Benefits in Singapore (pilot market)?

Note for interviewer: See below for a sample solution – interview could take a different approach. If prompted, show information in tables / exhibits.

SAMPLE SOLUTION

1) Population that is employed in formal sector: ~4MM
2) # of employees working for target companies that are likely to offer "Employee Vaccination Benefit" program (see Exhibit 1):
   - Option A (simple): Large multinational companies and large local companies are likely to offer generous benefits: 4MM x 30% = 1.2MM
   - Option B (complex): Some industries are generous regardless of size (e.g., tech and finance), for other industries only large multinational companies are generous: 4MM x 15% (finance) + 4MM x 5% (tech) + 4MM x 80% x 30% (other industries, large corporates) = ~1.8MM
3) # of employees for whom vaccines is appropriate (excluding dependents, assume voucher can only be redeemed by employees):
   - Option A: 1.2MM x ~1/3 (approx. from Exhibit 2) = 400K // Option B: 1.8MM x ~1/3 (approx. from Exhibit 2) = 600K
4) # of employees who have not already been vaccinated (see Table):
   - Option A: 400K x (100% - 15%) = 340K // Option B: Option B: 600K x (100% - 15%) = 510K
5) # of employees that will take- up the "Employee Vaccination Program" (see Table):
   - Option A: 340K x 10% = 34K // Option B: 510K x 10% = 51K
6) Expected total revenue from "Employee Vaccination Benefit" (assuming two -dosage vaccine, 300$ revenue per dose):
   - Option A: 34K x 2 x 300 = 20.4M$ // Option B: 51K x 2 x 300 = 30.6M

Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

[PART 2] QUANTIATIVE ANALYSIS: Relevant data to be provided (if asked)

Item	Relevant data	Additional comments (for interviewer)
Total employee size in Singapore	**~4MM**	Note that they should use employee size and not "total" population", as they should exclude children, retired, informal self employed etc.
Employee split by company size	See **Exhibit 1**	The key assumption would be that large companies have more generous benefit offerings
Employee split by industry	See **Exhibit 1**	Only relevant if candidate correctly assumes that finance & tech are the most generous industries for employee benefits
Relevant age groups for Dengue vaccine	**13-35** years old	Interviewer should proactively correct the candidate if they assume that anyone can receive the vaccine regardless of age
Average working ages in Singapore	**20-64** years old	n/a
Age distribution of employed residents	See **Exhibit 2**	Interviewee can simplify the numbers in the exhibit by assuming that each 5-year bracket is approximately ~11%; so the 20-35 year-old range (for which the vaccine is appropriate) would be approximately ~1/3 of the total workforce. Calculating the exact number (to the nearest decimal) would not be necessary
Estimated number of relevant employees that are already vaccinated (adult vaccination rates for Dengue)	**15%**	Important for candidate to understand that some employees would have already received the vaccine (either through the National Programs or out-of-pocket private clinics)
Employee adoption/ "take up" rate for Employee Vaccination Benefit program	**~10%**	This is just a working assumption – in Part 3 of the case, this assumption should be challenged further, as adoption would depend on the design of program (i.e., offering a 50% discount voucher to be redeemed at a clinic is not as effective as on-site vaccination)

Employee Vaccination Benefits

[PART 2] QUANTIATIVE ANALYSIS: Exhibit 1

Exhibit 1A: Employee distribution by sector

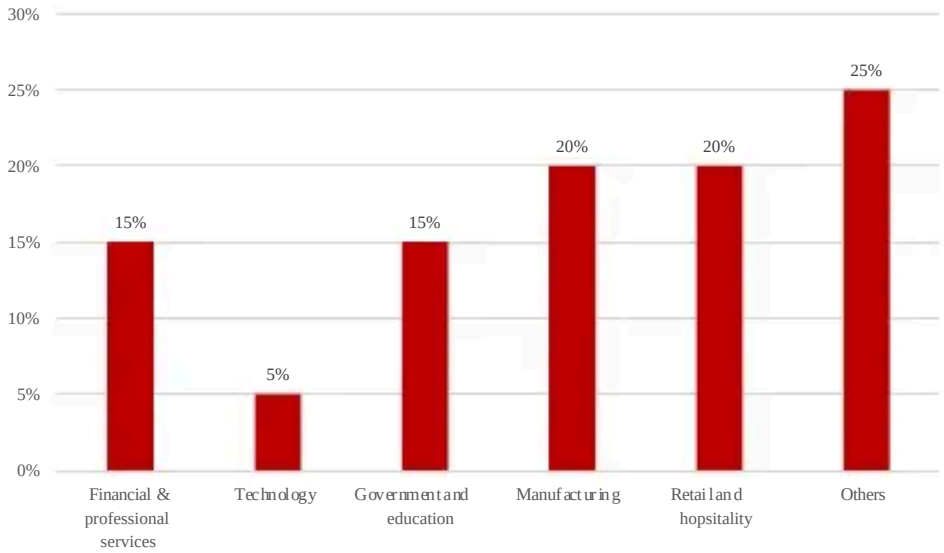
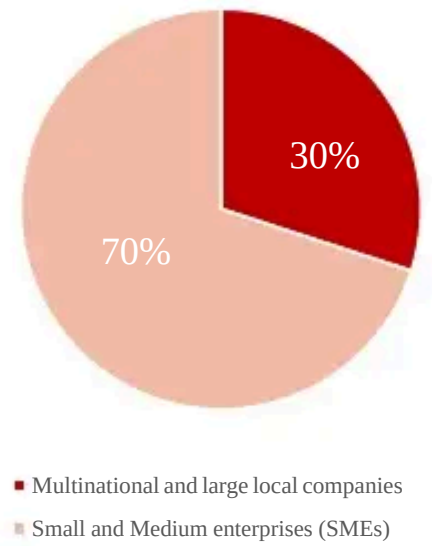


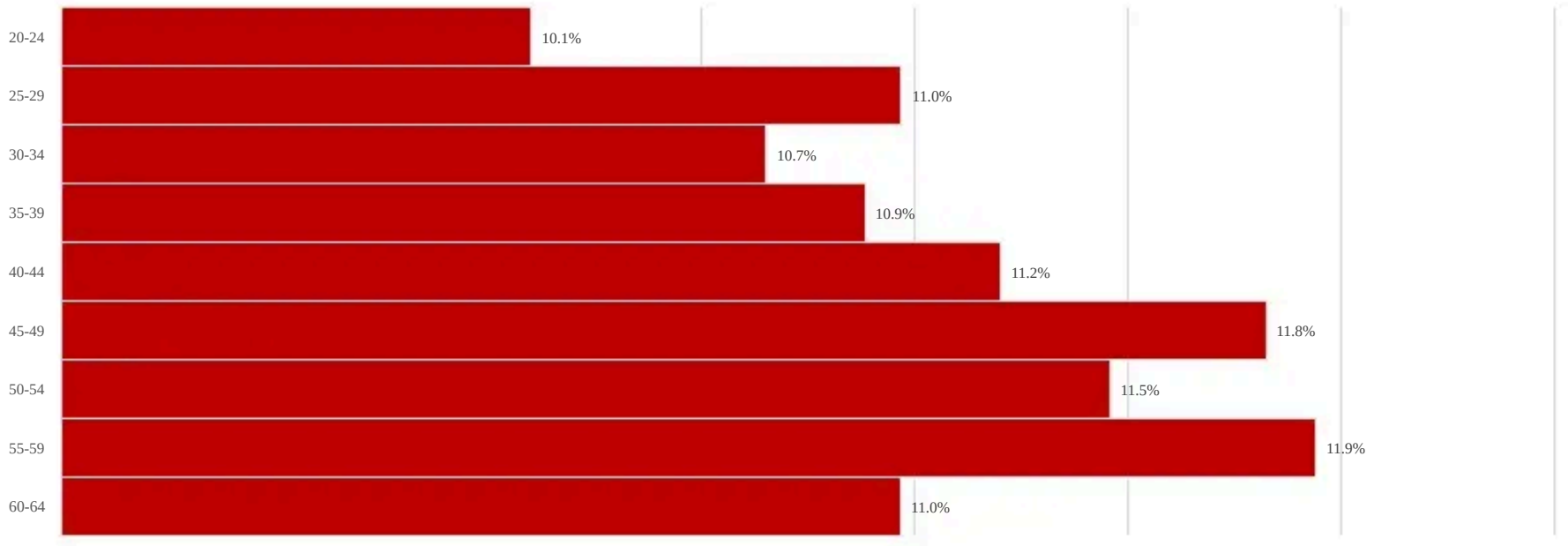
Exhibit 1B: Employee distribution by company size



Employee Vaccination Benefits

[PART 2] QUANTIATIVE ANALYSIS: Exhibit 2

Exhibit 2: Age distribution of Singapore workforce



Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

[Part 3] BRAINSTORMING QUESTION: Changing the design of the program

Question: After doing the numbers, challenge the interviewee to think "deeper" about the simplified assumptions behind employee "adoption" of the Employee Vaccination Benefit program (i.e., the number provided if prompted was around ~10%). In particular, challenge them to think about:

- What are some of the **barriers that are preventing vaccination adoption** ?
- How can "Employee Vaccination Benefit" programs be **designed to effectively address these barriers and increase employee adoption** ?

SAMPLE ANSWERS

- Some of the key **challenges & complexities for private patients to access and pay for vaccinations** are:
  - Affordability and cost
  - Education and awareness
  - Access and adherence (particularly for multi-dose vaccines such as Dengue)
  - Vaccine hesitancy / negative perceptions
- Possible ways to **increase employee "take -up" rate** (i.e., changing the design beyond the assumed 50% employer-paid voucher):
  - Offer on-site vaccination at the office, rather than having to redeem the voucher at a clinic
  - Increase size of "subsidy" (e.g., from 50% to 100% subsidy)
  - Drive awareness campaigns about the importance of vaccination to protect against the disease
- The idea is for candidate to appreciate that "size of the prize" is not a fixed number, but also **depends on the design of the "Employee Vaccination Benefit" program** itself

Healthcare / Pharma
New product launch
Market prioritization and sizing

Easy
Medium
Hard

Employee Vaccination Benefits

RECOMMENDATION QUESTION

You have **45-seconds** to provide an update to the CEO on your recommendation. Do you think it makes sense for our client to **pursue this opportunity** ? What **additional information** would be relevant? Is the **Dengue vaccine suitable** for this type of "Employee Vaccination Benefit" program?

POTENTIAL CONSIDERATIONS

- The sales volume / revenue for the pilot number seem somewhat small. However, it is important to highlight that Singapore is just a "pilot" market – it is useful to start small and get some insights / reactions from the market; then scale the program to larger sized markets
- Beyond revenue numbers, it is important to consider profitability. Indeed, margins for the Dengue vaccine are very high (PVP is 300$ per shot, compared to 15-30$ for the flu shot, with margins of ~90%). Hence, even if the volume is low compared to the flu vaccine, the "size of the prize" in terms of profit contribution can be significant
- Overall, it makes sense to recommend starting with a pilot in the prioritized market (Singapore) and based on results from pilot, decide whether to scale to other shortlisted markets in the Asia-Pacific region (based on some of the criteria identified in Part 1)

Grab your popcorn

By Vitaly Pisarenko (MBA 2024)



Entertainment
Operations
Increasing revenue

Easy
Medium
Hard

Entertainment
Operations
Increasing revenue

Easy
Medium
Hard

Grab your popcorn

PROMPT

Our client, Cinematron, is the largest movie theatre operator in Wonderland with 40% market share (by box office). After a tough period of COVID, when they had to cut half of their employees just to stay alive, they are finally starting to recover.

As clients are returning to cinemas, Cinematron's leadership is beginning to notice that their financials are not looking very good. They have put on a lot of debt during the COVID crisis, and it is essential that the company is able to service it.

Cinematron's CEO hired you to find the root cause of the problem and figure out how can the company get back on track, being highly profitable same as before COVID.

CLARIFYING POINTS (if asked)

- The company has a wide network of cinemas in best malls of Wonderland
- Closest competitor has 20% market share. Cinematron's share was constant, but started to slowly deteriorate in the last couple of months
- Revenue structure before COVID – 64% ticket sales, 32% concession, 4% - advertising
- Admissions are at around 65% of pre-COVID levels
- Cost of sales remains stable with 50% for tickets and 40% for concessions, OpEx very lean after the COVID crisis

CASE GUIDANCE

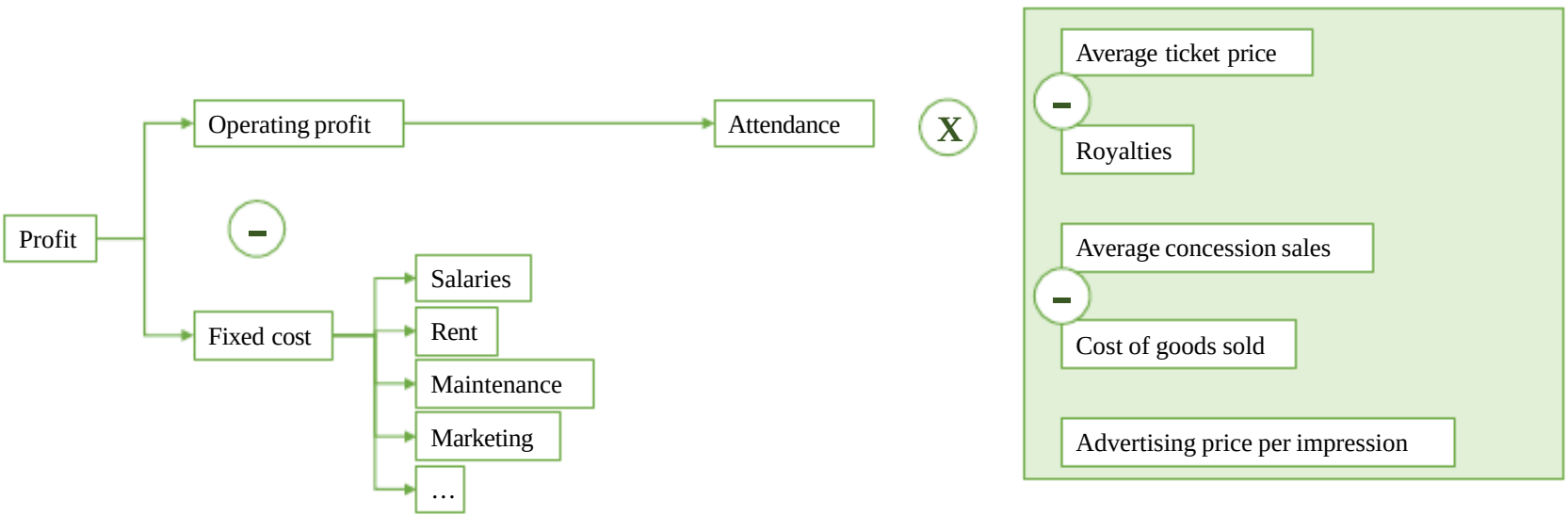
- This is an interviewee-led case, so they would be expected to unfold the movie theatre business model and, most importantly, generate viable ideas for a company in a complicated situation
- The case is aimed to evaluate understanding of revenue-driving factors, ability to do high-level operations analysis and generating strategic ideas,
- Candidate should not focus on cost factors (as costs were severely cut during the COVID period, and ideally the interviewee should be able to understand that context)
- If candidate is struggling, the interviewer can nudge them towards the logic of less staff + more tickets sold = more lines, leading to less sales per patron.

Grab your popcorn

STRUCTURE GUIDANCE

It is ok if the candidate uses the classic profit case structure. Important addition is that revenues and COGS are directly linked to every admission. If candidate paid attention before, they will focus on revenue side, and ask for more data on that.

SAMPLE STRUCTURE



Grab your popcorn

QUANTITATIVE ANALYSIS

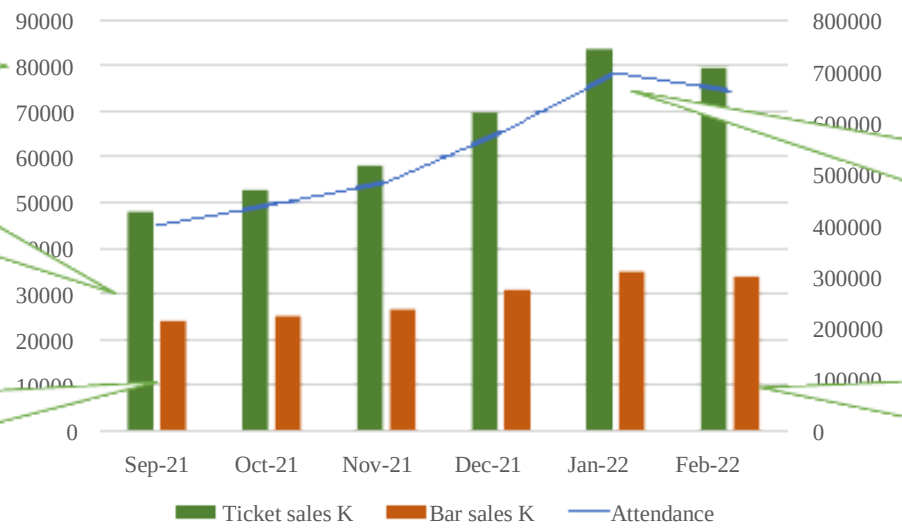
Prompt: here is some key data about the last 6 months of the company. **What insights would you provide?** After reading, show Exhibit 1 to the candidate (next slide).

SOLUTION

Sales, in thousands, Wonder-land local currency WAH

Ticket sales have direct correlation with attendance, with price being constant at 120 WAH per ticket

Total bar sales are growing slower as sales per patron decrease from 60 WAH to lowest of 50 WAH in January



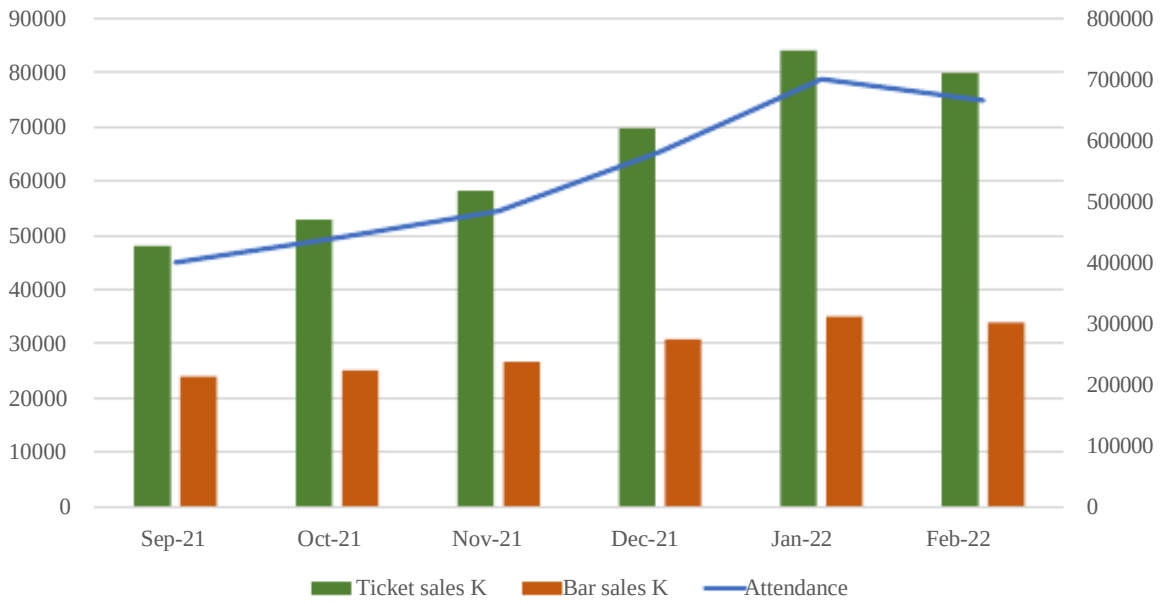
Scale for attendance, equal to number of tickets sold

January is peak season, so some cooldown after it is completely normal. But as more growth is expected, it can be used as a basis for analysis

Losing 10 WAH per customer at approximately 700,000 customers per month and 60% margin is equal to 4,200,000WAH of net profit lost

Grab your popcorn

EXHIBIT 1: Sales and attendance after COVID



Entertainment
Operations
Increasing revenue

Easy
Medium
Hard

Grab your popcorn

QUANTITATIVE ANALYSIS

Prompt: after brainstorming about possible solutions, three main options were studied in-depth. Here are key metrics for them. **What do you think about these options?** After reading, show Exhibit 2 to the candidate (next slide).

SOLUTION

Prime time attendance share: 80%
Prime time bar checks per ticket decrease: 20%

For a base month of 700,000 tickets sold, 560,000 of them are prime time and 112,000 don't buy bar because of operational problems

Solution	Productivity	Price
Extra stuff hours	40/hour	200WAH/hour
Online bar sales	10% of Prime-time customers	3,600,000 WAH development fees, 100,000 WAH/month maintenance
Reconstruction into self-service pop-corn market	Up to 1,000,000 Prime time customers/month	Construction 5,000,000 WAH + 1 month closed bar

112,000/40=2800 hours needed to fix the problem, resulting in 560,000 cost vs 4.2M extra profit. Good solution and fast to implement.

It will only solve half the problem but will do it cheaper at 100,000/month vs 280,000, making the payback period 3,600,000/(280,000-100,000)=20 months. Could work well in combination with first solution.

Total price=construction+50*700,000*.6=26M vs alternative 3.6M+380K/month, so payback=59 months (5 years). Too long! But if they expect to reach 1M prime time customers/month, the alternative would be 340000/40*200+100,000 maintenance of online sales (1.8M WAH/month), about a year of payback.

Grab your popcorn

EXHIBIT 2: Options for concession bars

Prime time attendance share: 80%
Prime time bar checks per ticket decrease: 20%

Solution	Productivity	Price
Extra stuff hours	40/hour	200WAH/hour
Online bar sales	10% of Prime-time customers	3,600,000 WAH development fees, 100,000 WAH/month maintenance
Reconstruction into self-service pop-corn market	Up to 1,000,000 Prime time customers/month	Construction 5,000,000 WAH + 1 month closed bar

Entertainment
Operations
Increasing revenue

Easy
Medium
Hard

Grab your popcorn

BRAINSTORMING QUESTION

COVID has accelerated certain trends in the industry. In the light of latest technological shifts and studios launching their own streaming services, the outlook for movie theatres is not too bright. What would you recommend your client to look into to ensure sustainability of the company and maximize shareholder return.

SAMPLE ANSWERS

- As the influence of one Wonderland company on the global movie market is limited, Cinematron needs to ensure shareholder return right now through accelerated dividend payment
- To decrease dependance from Hollywood, Cinematron can invest in local production
- Further excel in operation, ensuring maximum spend per patron
- Company's main assets are its premises located in quality shopping malls. They could be repurposed for other entertainment-related activities
- The population is getting older, and special campaigns can be launched to get more mature audiences back to cinemas
- Not so good ideas: acquire competitors (anti-monopoly regulation very likely to not allow), go to other geographies

Entertainment
Operations
Increasing revenue

Easy
Medium
Hard

Grab your popcorn

RECOMMENDATION QUESTION

Cinematron's CEO is on their way to the room and will like to hear a recommendation based on our recent findings .

SAMPLE RECOMMENDATION

A good recommendation should include:

- Specific measures to solve the problem, for example increase stuffing, to prevent losses during peak hours, potentially starting to develop online bar sales module and to track attendance dynamics, to see whether reconstruction becomes an attractive option.
- Arguments backing the previous recommendations. Example:
  - Profits will grow by 4,
  - Customer satisfaction will increase (concessions are a part of the moviegoing experience)
- Risks that should be further evaluated. Examples:
  - Productivity may be diminishing with more employees working at the bar
  - Actual premises will not be able to accommodate new processes
  - Online sales can produce worse results, take long to develop and go overbudget
  - The growth trend will not continue, making investments not profitable
- Next actions that Cinematron should do. Example:
  - Pilot project for stuffing, study best practices for online sales and self-service popcorn markets

Hello Telecom

By Nikhil Suri & Supriya Jaiswal (MBA 2024)



Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

PROMPT

Hello Telecom, a prominent telecom service provider in the US, is facing a critical decision that could significantly impact its future in the airlines' internet services industry. The company is contemplating whether to start providing inflight internet service for airlines looking at growing demands of tech-savvy passengers.

As a consultant, you have been engaged by the CEO of the Hello Telecom to assess whether they should pursue this opportunity or not.

CLARIFYING POINTS (if asked)

- Industry trends indicate a growing adoption of inflight connectivity by airlines to enhance the passenger experience. The objective of the case is to decide if Hello Telecom should enter the market of inflight internet services.
- The telecom provider recognizes the emerging opportunity to expand its services beyond traditional telecommunications and aims to provide seamless and reliable internet access to airlines' passengers.
- The company expects to implement it within a year
- Company is headquartered in the United states and looking to provide inflight internet services only in the US
- Hello Telecom will need the necessary equipment and infrastructure to provide these services which would cost them the initial investment of $50M

CASE GUIDANCE

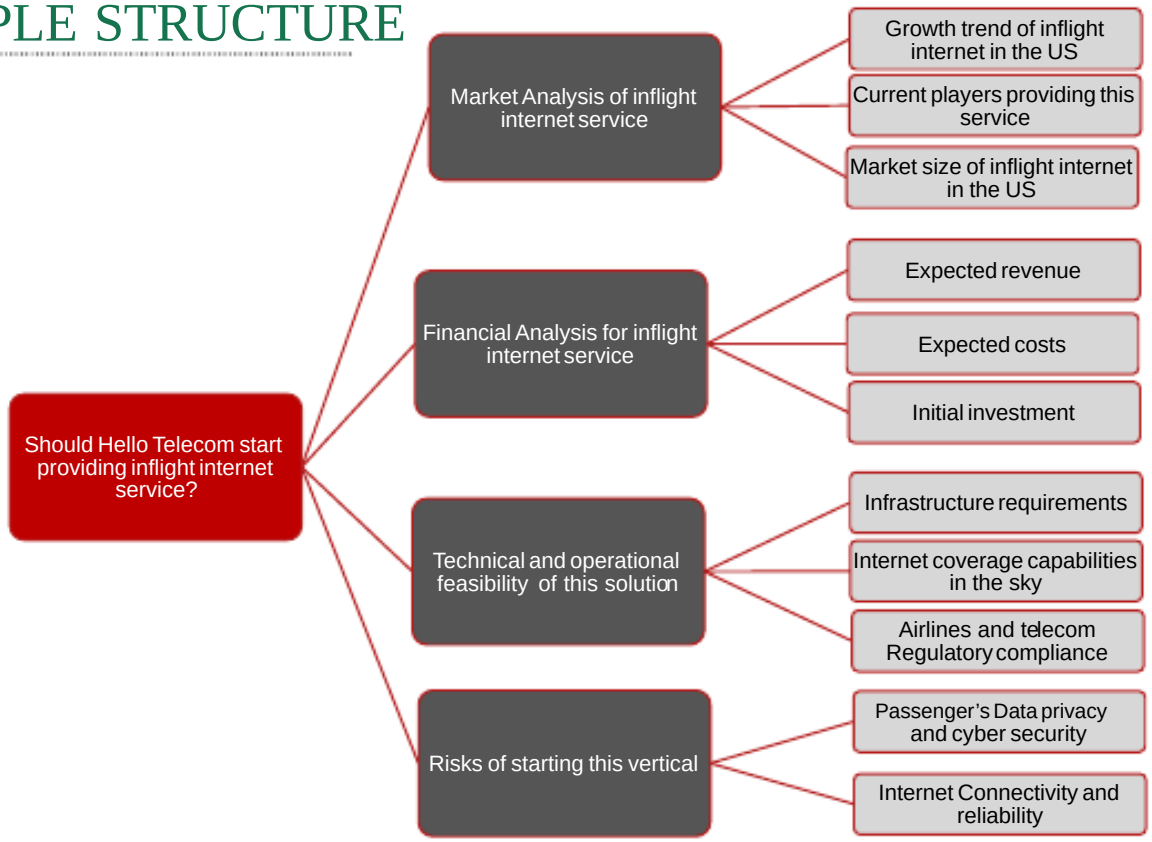
- The case is interviewer led case and can be adjusted for different difficulty levels and skills tested.
- The case tests numerous skills of candidate such as market sizing, estimation of revenue and costs, profitability of project, break-even analysis, brainstorm regarding challenges and go to market strategy, and decision-making ability to ability to evaluate a project.
- The quantitative part requires an organized and structured approach to be solved.
- A good candidate must evaluate the feasibility, risks, and strategic implications of offering inflight internet connectivity to meet the growing demands of tech-savvy passengers.

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

SAMPLE STRUCTURE



STRUCTURE GUIDANCE

- The candidate should take into account the market size, growth rate, competitors, customer preference for pursuing this opportunity.
- Good candidates will also mention risks associated with the this move.
- Under revenue and costs, the good candidate will talk about the various revenue streams and costs involved in this business.
- Once the candidate has given the structure and if it mainly includes the criteria mentioned above, ask the candidate to size the market of inflight internet in the US in $.

Hello Telecom

MARKET SIZE FOR INFLIGHT INTERNET SERVICES

Market Sizing for Inflight Internet Services in the United States in USD

POSSIBLE SOLUTION

Variables	Values	Assumptions and Reasons
Total population of the United States	331 Mn	Based on the latest available population data from reputable sources.
Percentage of population that travels	60%	Assumes that a significant portion of the population engages in travel, including both domestic and international trips.
Average number of trips per person per year	2.5	Assumes an average travel frequency that includes both business and leisure trips.
Percentage of travelers preferring air travel	50%	Represents the proportion of travelers who choose air travel as their preferred mode of transportation.
Average number of passengers per flight	200	Based on typical aircraft capacity for domestic flights in the United States.
Average flight occupancy rate	85%	Represents the average percentage of seats occupied on flights.
Percentage of passengers considering inflight internet important	80%	Assumes a high proportion of passengers value inflight internet connectivity.
Percentage of passengers willing to pay for inflight internet	60%	Represents the estimated portion of passengers willing to pay for the service.
Average ticket price	$300	Represents an approximate average ticket price for domestic flights in the United States.
Percentage of revenue allocated to inflight internet services	2.5%	Assumes a percentage of the overall ticket revenue allocated to inflight internet services.

Revenue from inflight internet services = Passengers willing to pay for inflight internet * Average ticket price * Percentage of revenue allocated to inflight internet services = 47.66 million * $300 * 0.025 Revenue from inflight internet services = $3.5845 billion

Therefore, the potential market size for inflight internet services in the United States is estimated to be approximately $3.5845 billion in annual revenue.

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

QUESTION AFTER MARKET SIZING

After completing the market sizing and testing the assumptions of the candidates. Ask candidate to make the decision of go or no go based on the exhibits on the next slide.

EXHIBIT GUIDANCE

- There are 3 exhibits. Competitor analysis, Market trend, and Hello Telecom's important financials.
- From market trends candidate should be able to figure out that the market of inflight internet is growing by 15% YOY.
- After looking at the Hello Telecom's revenue, EBITDA, market share and growth, candidate should quickly identify that the mar gin of inflight internet is ~40% more than the company's current margin
- Looking at the competitor analysis should inform candidate that Hello telecom can target to achieve 9% of the market share in the inflight internet as well.
- The initial investment in the notes can help the candidate find the payback period of the project.

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

EXHIBITs

Exhibit 1: Market Share Inflight internet 2023 (%)

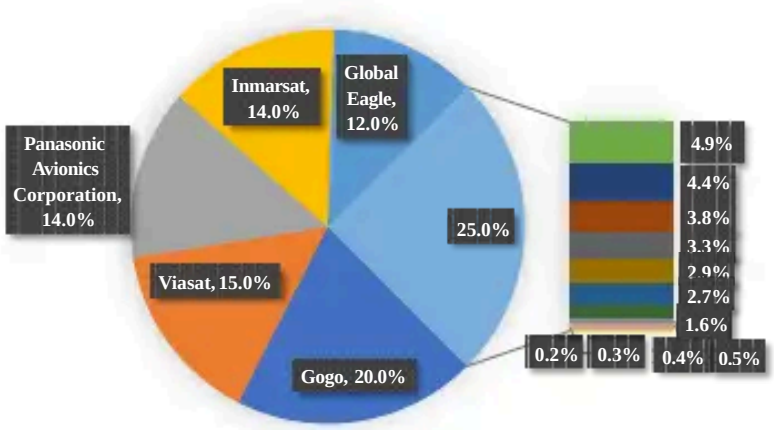


Exhibit 2:Market Size inflight internet

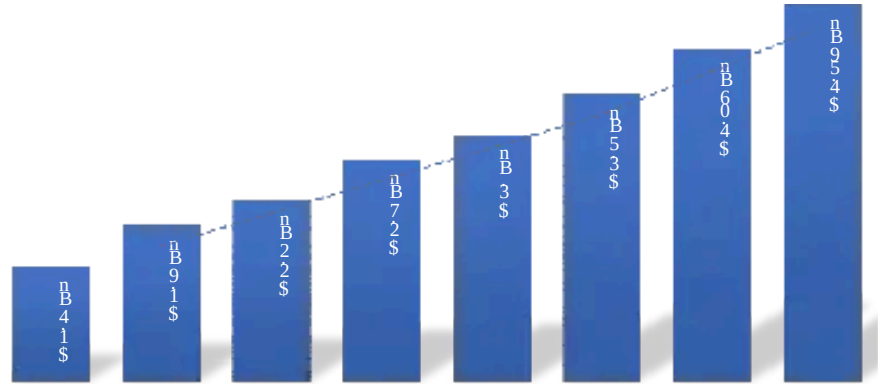


Exhibit 3:	2023
Revenue of Hello Telecom	$ 30,14 Bn
EBITDA of Hello Telecom	$ 7,54 Bn
Current Market Share	9%
YoY Revenue Growth	2%

Note: The margin of Inflight Internet service is 32%;
Initial investment required to set up the inflight internet service is $ 50 Mn

Hello Telecom

QUANTITATIVE ANALYSIS

For quantitative analysis, the candidate has 2 ways to solve this. Either to check the NPV/payback period of the return or look at the growth in the revenue.

SOLUTION

Option 1: Revenue growth

Market size of Inflight internet = 3.5 B
Expected market share = 9%
Revenue gain = 3.5B*9% = 0.315B or 315M
% of revenue increase:
Revenue gain/current revenue = 0.315/3.14 = 1.04%
1.04% growth is 50% increase in the growth rate of current YoY growth, hence they should do it

Note: Candidate should also realize that telecom is a slow growing industry (~2%) and hence, additional growth of 1.04% is around 50% more growth.

Option 2: NPV/Breakeven analysis

Market size of Inflight internet = 3.5 B
Expected market share = 9%
Revenue gain = 3.5B*9% = 0.315B or 315M
Inflight internet margin = 32%
EBITDA from new service = 315M*32%=100.8M
Initial investment = 50M
Payback period = 50/100.8 = ~0.5 year
Since payback period is just 6 months, they should do it

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

BRAINSTORMING QUESTION

What additional services or features can be offered alongside basic internet connectivity to enhance the value proposition for airlines and passengers?

SAMPLE ANSWERS

Additional services and features to enhance the value proposition:

1. Inflight entertainment with on-demand movies, TV shows, and live TV channels
2. Productivity tools such as business applications and virtual meeting capabilities
3. Destination-specific content like travel guides and language learning modules
4. Airline services including real-time flight information and seat upgrades
5. Personalisation options for customized content and targeted advertising
6. Social connectivity through an inflight social network

These services provide convenience, entertainment, productivity, and personalisation for passengers.

Telecom providers can collaborate with airlines to identify specific needs and preferences for value-added services.

By offering these additional services, airlines can differentiate themselves and enhance the overall inflight experience.

Telecom & Airlines
Product launch
Market sizing

Easy
Medium
Hard

Hello Telecom

RECOMMENDATION QUESTION

Hello Telecom's CEO is on his way and would like to hear your recommendation based on the recent findings

SAMPLE RECOMMENDATION

I recommend that Hello Telecom should enter the inflight Internet service market because of three reasons:

1. This service has a payback period period of 0.5 years and annual revenue potential of $ 100 Mn
2. The demand for inflight internet service is growing at the rate of 15%, which is exponentially more than the growth rate of telecom industry of 2%
3. Additionally, it makes strategic sense for the Hello Telecom to venture into this emerging opportunity to expand its services beyond traditional telecommunications

However, this entails following risks:

1. Airline industry is heavily regulated
2. Reliability of Network
3. Privacy and Cybersecurity related risks

As next steps, I'd suggest to:

1. Look for potential airline partners to run a pilot with
2. Develop a comprehensive inflight internet solution that meets the evolving needs of airlines and passengers

TNETNOC

- INTRODUCTION TO CONSULTING
- IESE STATISTICS
- INDUSTRY KNOW HOW
- BEST PRACTICES AND TIPS
- CASES
  - BCG CASE COMPETITION CASES (2nd EDITION)
  - PREVIOUS CASEBOOK CASES

SESAC PLO

Case Title	Industry	Type of Case	Difficulty Level
REEVE TEC.	Automotive	Profitability, Product Launch	Medium
StoreStuff	Real Estate	M&A, Self-Storage	Medium
Nabaco	Mining	Investments, Alternatives	Medium
PaintTech	Chemicals	Product Launch, Pricing, Sustainability	Hard
IoT and Flexible Loans	Financial Services	M&A, Synergies	Hard
Fastcar	Automotive	Market Entry, Profitability	Medium
Travel Wizard	Airlines	Competitive Threat, Profitability	Medium
Eurotech	TMT	M&A, Profitability	Medium
Crunch Yo ' Burger	Food Service	Profitability, Operations	Medium
Transantiago	Transportation	Public Sector, Profitability	Medium
California Wildfires	Public Sector	Climate Change, Strategic Response	Medium
South bank	Financial Services	Product Launch, Profitability	Medium
Cricket Mania	Sports	Investment Decision, Profitability	Hard
The Bookstore	Retail	Market Entry, E-Commerce	Medium
Green Airlines	Airlines	Growth Strategy, Investments	Hard
Pipeline Oil Technology	Oil & Gas	Operations, Pricing	Medium
Nica Productions	Media & Entertainment	Profitability, Operational costs	Medium
Cowbon Emissions	Agriculture	Sustainability, Operations	Hard
OncoCo	PE/Pharma	Profitability, M&A	Medium
Investment Bank Spin-off	Financial Services	Profitability, Banking	Hard

REEVE TEC.

By Íñigo Losada



Automotive
Product launch
Profitability

Easy
Medium
Hard

REEVE TEC.

Automotive
Product launch
Profitability

Easy
Medium
Hard

PROMPT

REEVE TEC., is a TIER 2 automotive supplier specialized in VAI (Video Artificial Intelligence).

The company offers safety related products, and currently serves the most relevant OEMs in Europe (original equipment manufacturers).

After 9 years of growth, profitability has stagnated for the past year.

The CEO hires you to:

- **Find why is this trend happening**
- **Define ways to increase profits**

CLARIFYING POINTS (if asked)

- TIER 2 suppliers are experts in their specific domain, but they don't have the desire to produce auto-grade parts. Thereby they can also sell to non-automotive customers. REEVE currently sales to OEMs only
- REEVE sales pre-collision video technology as in a catalog of 3 different product segments, having gained its competitive advantage thanks to its in-house developed Software
- The company has its core in Software development. Product manufacturing is subcontracted in a long-term contract and thereby doesn't affect REEVE's profitability
- Car safety technology is a fierce market, with many players interested to gain market share
- The CEO doesn't have a specific growth target. He's looking for short & long-term solutions

CASE GUIDANCE

This is an interviewee-led case, where the candidate is expected to drive the case and suggest the next course of action. The candidate should notice this is a case about a middle market company in the automotive industry. Therefore, the company's competitive landscape and margins may differ to the ones of an OEM.

The interviewer should guide the candidate towards focusing on improving revenues and not get stuck on reducing costs.

Automotive
Product launch
Profitability

Easy
Medium
Hard

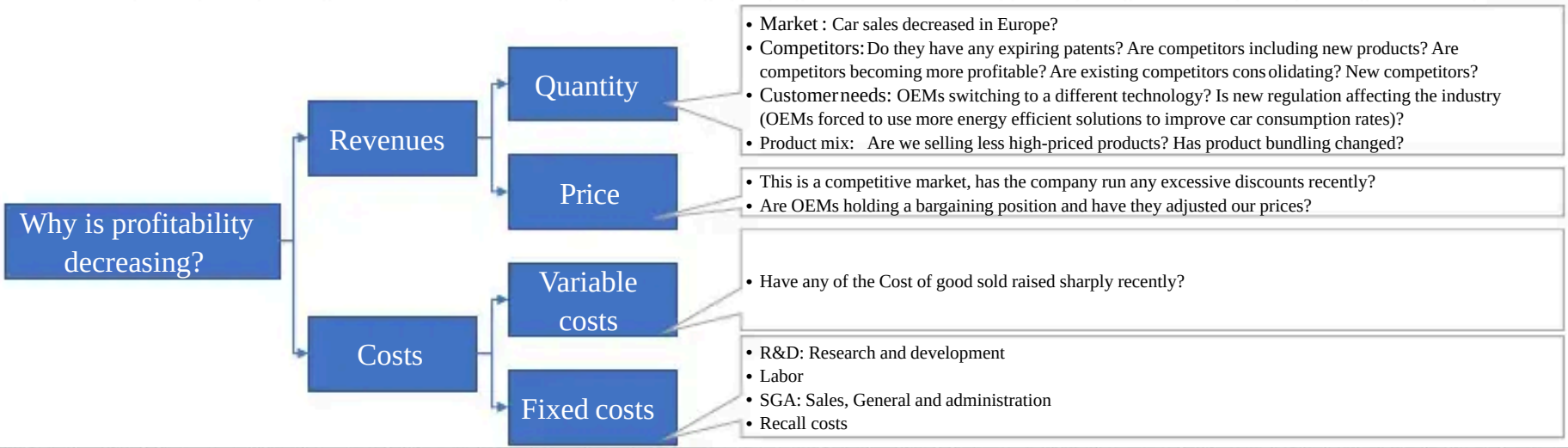
REEVE TEC.

STRUCTURE GUIDANCE

The structure of this case should be mainly about profitability. The candidate should notice there are external and internal factors that may influence in the company and should highlight which of those can be potentially harming the company's revenues (market trends, competition, customer needs, etc.). Most of REEVE's costs are from R&D. The company has no factories and has a tiny sales force, mostly focused on the aftermarket.

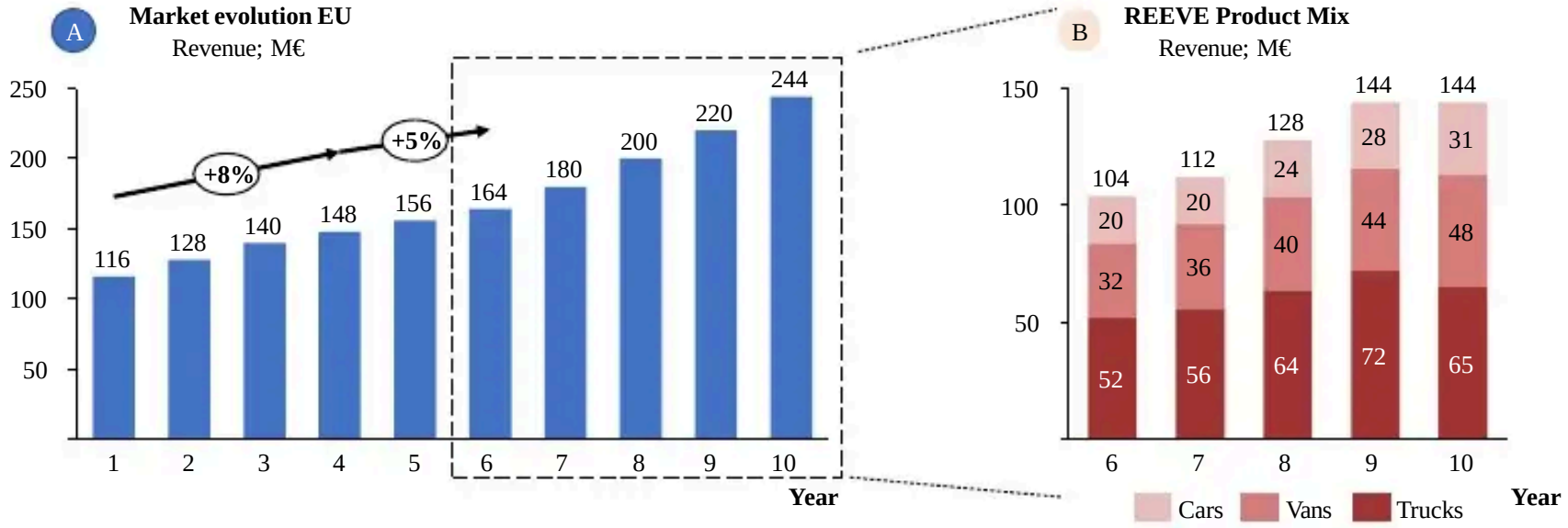
- **Once the candidate has given an overview of the structure, hand them Exhibit 1, and let them use this to decide where to focus**

SAMPLE STRUCTURE



REEVE TEC.Exhibit 1

MARKET EVOLUTION AND REEVE'S PRODUCT MIX



REEVE TEC.Exhibit 1

EXAMPLE CANDIDATE RESPONSE

- The exhibit on the left shows the **market revenues for the past 10 years**
- The market has evolved from growing at +8% for the first 4 years, to a period of lower growth at a +5% rate, getting back to a +10% growth rate from years 6 to 10. **The candidate should discard a market trend as the cause of the decrease in sales**
- A great candidate should notice **cyclicality of the automotive industry** as a cause of different growth rates
- The exhibit to the right shows the REEVE's revenues by product from years 6 -10
- The company has lost market share, from ~65% Y6 to ~60% in Y10, meaning that **company's sales have not increased despite the increasing market trend** in the industry
- This is caused by a **decrease in sales of product segment "Trucks"** , which is preventing the company from growing
- The candidate should identify that this decrease in sales can be caused **either by a problem with "Trucks" or by a negative trend in its market segment**
- The candidate should suggest to **investigate further about product segment "Trucks"**

REEVE TEC.

FOLLOW-UP QUESTION AFTER EXHIBIT 1 - BRAINSTORMING

- We have discovered there is a sales problem with product segment "Trucks"
- Talking to the CMO, he admits that a competitor has caught up in the development of a similar software, offering a similar product to that of REEVE's, but at a cheaper price
- **What are different ways in which the company can respond to this competitive threat?**

SAMPLE ANSWERS

- **Do nothing:** this doesn't seem a good idea since it is your largest market segment
- **Mitigate:** try to retain your clients by offering discounts; this ends up in lower margins for REEVE, not resolving its actual profitability problem
- **Align:** Enter in a price war with the competitor, also discarded since it may harm the company's long -term profitability
- **Acquire:** depending on the size of the competitor and given that REEVE is a leading player in the market, acquiring the competitor is a good possibility to be explored
- **Replicate:** Launch a competing product
- Note to interviewer: Try to steer the candidate to "Replicate", in order to set up the next part of the case

REEVE TEC.

CALCULATION QUESTION

- REEVE is considering launching one of the different prototypes they have been working on for “Trucks” segment
- **Which of the 3 prototypes should the company launch?**

OPTIMAL ESTIMATIONS

- Assume equal sale price and no customer preferences among the three products
- The candidate should compare the 3 products by developing a break-even analysis
  - INVESTMENT = MARGIN*MARKET SHARE
    - MARGIN = PRICE (P) – VARIABLE COSTS
    - MARKET SHARE = QUANTITY (Q) * MARKET CAPTURE
- Comparing the three products we determine which is most convenient for the company to launch
  - A → 20 = 0,5P*0,8Q -> PQ = 20/0,4 - > PQ = 50M€
  - B → 30 = 0,8P*0,9Q -> PQ = 30/0,72 - > PQ = 41.6M€ ≈ 42M€
    - Notice: 30/0,72 ≈ 3.000/72 ≈ 1.000/ (8*3) ≈ 500/ 12 ≈ 40
  - C → 15 = 0,6P*0,7Q -> PQ = 15/0,42 - > PQ = 35.7M€ ≈ 36M€
    - Notice: 15/0,42 ≈ 15/0,45 ≈ 1500/45 ≈ 100/3 ≈ 33.3
- A great candidate should realize rounded calculations are sufficient to compare the results for the three products
- **Product C is the most convenient** , it allows to recover the investment with less PQ (Sales)

REEVE TEC.Exhibit 2

YEAR 11 - LAUNCH ANALYSIS

PRODUCT	A	B	C
INVESTMENT	20M	30M	15M
VARIABLE COSTS	50%	20%	40%
MARKET CAPTURE	80%	90%	70%

Automotive
Product launch
Profitability

Easy
Medium
Hard

REEVE TEC.

RECOMMENDATION QUESTION

You are at the client's office. The CEO showed up an hour late to your meeting and he needs your recommendations now. **What would you tell him?**

SAMPLE RECOMMENDATION

The candidate should summarize that:

- The company should launch product C to compete in the market segment "Trucks"
  - The market grew by +10% in Y10 while REEVE's sales stagnated; the company moved back in its market -share
  - The segments "Cars" and "Vans" grew at the market rate, but Trucks underperformed growing just +5%
  - REEVE should "replicate" its competitor and launch a new product to compete in this new environment
  - Product C presents the best conditions to do so, with a breakeven point of 36M€ sales, +50% of the current market share in th e Trucks segment

StoreStuff

By Lucas Delgado



Real Estate
Self-Storage
M&A

Easy
Medium
Hard

Real Estate
Self-Storage
M&A

Easy
Medium
Hard

StoreStuff

PROMPT

Our Client, StoreStuff, is a successful chain of Self-Storage units, specialized in rental of spaces for both people and companies to store their belongings such as old documents, furniture, and all sort of equipment. A New York based company, StoreStuff is the market leader in the US sector and has grown steadily in the past 10 years, mainly through acquisition of smaller, regional companies. Aiming to increase their presence in the West side of the country, StoreStuff has identified YourPlace, a Self-Storage unit in Nevada, that seems to be a good target for an acquisition.

The CEO has hired us to figure if they should move on with this acquisition.

CLARIFYING POINTS (if asked)

- The company only provides the space for rental – no additional services such as logistics are provided by StoreStuff. Their buildings are owned and managed by the company.
- In the customer jorney, a new client goes to the store or on-line, rents a space, and receives a password to access his Box. Contracts are paid, renewed and readjusted on a monthly basis.
- StoreStuff has 60% of total market, and the rest 40% is divided among smaller companies
- StoreStuff has 20 units mainly located on the East side. Each operating unit has an approximate $5Mi revenue. As Operational Expenses are low (mainly building maintenance and security), StoreStuff enjoys a 40% Net Margin
- A typical StoreStuff facility provides two sizes of rental space, called "Box". The "Large Box" has 10 square meters, and the "Regular Box" has 2,5 square meters. Boxes can be both aggregated to form a larger one, or dismantled, to form small boxes.
- The company wants to understand wether this is a good target. So far, they are not worried with the size of the deal

CASE GUIDANCE

While this a M&A case, the potential synergies are key to crack this case. The Self-Storage is a very unique industry and relatively unknown, but while the interviewer could work on leading the candidate to the right path, if it is required, it is expected that a good interviewee can use his business sense to lead the case in its distinct parts.

StoreStuff

STRUCTURE GUIDANCE

A good framework should, as a typical M&A situation, address:

- Understanding the Standalone value of the target
- Consider repossible Synergies, both in Revenues and Costs – a good candidate should mention Marketing and Brand power to increase revenues
- Capabilities & Risks – in the context of the case, Real Estate risks related to the infrastructure of the target's building should be mentioned

Additionally, the candidate should understand the market, since Nevada is a new market for StorageStuff

- Market analysis should consider market size, growth, and competitors

SAMPLE STRUCTURE



- Business sense can also be evaluated in the structuring part, as a good candidate is expected to raise hypothesis that can be related to the business situation
- Candidate should be led to address the Synergies analysis, as following Exhibit will address this matter

StoreStuff

EXHIBIT 1

To assess if YourPlace is a good target, we received some preliminary information and the client want our help on defining if YourPlace is a good target for acquisition, and if there any clear synergies opportunities. Candidateshould be presentedwith Exhibit 1.

Exhibit 1 – StoreStuff and YourPlace average store 2021 P&L

Figures in US Dollars	YourPlace 2021FY	StoreStuff 2021FY (average store)
+ Sales	**5.650.000**	**5.000.000**
- Operations and Maintenance	941.667	500.000
- Salaries	385.000	350.000
= Operating Profit	**4.323.333**	**4.150.000**
-Sales & Marketing expenses	864.667	830.000
- Administrative expenses	432.333	415.000
= Net Profit	**3.026.333**	**2.905.000**
Total Area of store (sqm)	**2.000**	**1.500**

Expected insights:

- In a highlevel analysis, candidate should conclude that YourPlace is a promising target for acquisition. Since the company demonstrate a ~53% of Net Profit Margin.
- To better understand the financial figures of both, candidate should compare numbers in a comparable measure. If candidate fails to do that, lead him to analyzing in a Dollar/Area approach - Sales/Sqm and Cost/Sqm makes comparison easier
- Candidate should spot the difference in Operating and Maintenaince cost levels between the companies. In a cost/area comparison: YourPlace has a $475/sqm, while StoreStuff has $250/sqm – In a synergy perspective, a good candidate would move on with cost synergies calculation. Taking YourPlace Operations and Maintenance costs to the level of StoreStuff would bring USD450k/year in cost synergies – Difference of costs*Total Area = (475 – 250)*2.000
- Additionally, the candidate should do a similar analysis to conclude potential Revenue synergies. Setting Revenue/Sqm in same level would entail revenue synergies of USD700k/year

StoreStuff

BRAINSTORMING QUESTION

Which ideas of initiatives could you come up for the identified Revenue and Costs synergies?

SAMPLE ANSWERS

Expected insights:

- Following previous analysis, the candidate should move on with ideas of how to capture the synergies
- Main points of analysis are Revenue and Costs, specially Operations and Maintenance costs
- On the costs side, the candidate should bring up ideas on both reducing consumption cost (such as reducing costs of supply materials), and reducing consumption rate (such as avoiding machines breakdowns)

Ideas to capture the synergies

Revenue

- Leverage brand recognition, for example through marketing campaign
- Implement better sales processes
- Include on-line sales if not already implemented
- Improve pricing techniques
- Readjust contracts of lower Dollar/Square meter revenue
- Adequate size of boxes to fit demand (increase or decrease average area per box

Costs

- Leverage economies of scale to decrease supply material utilized on Operations and Maintenance, such as cleaning products, and equipments
- Implement higher standard processes of maintenance, for instance increasing preventive mantenaince in the building
- Implement technology to monitore possible bad usage of the building, or equipments, for instance a set of cameras and closed circuit tv system

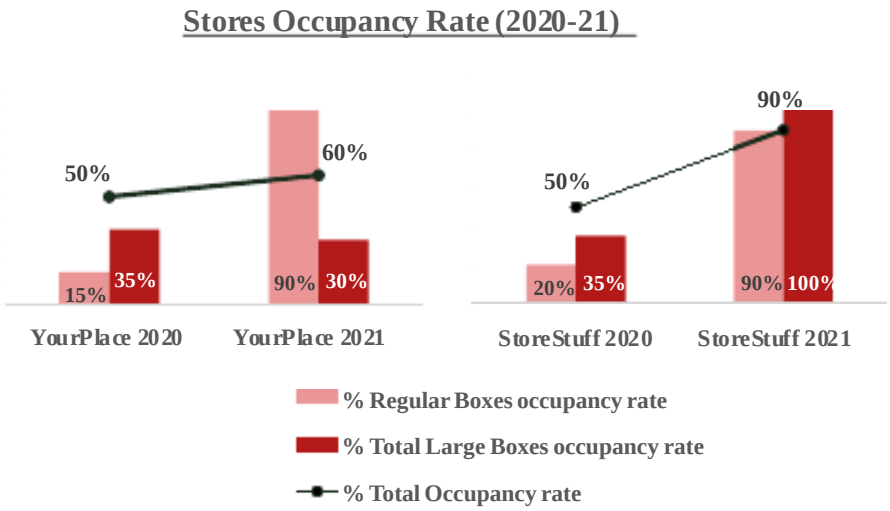
If you are aiming for a ~30 minutes case, you may skip the Quantitative Analysis and jump directly to final recommendation

StoreStuff

EXHIBIT 2

Now, we just received some new information from the client. He wants our help on identifying the differences in the sizes of boxes that are offered for rent in both StoreStuff and YourPlace stores that we are analyzing in order to increase YourPlace sales.

Exhibit 2 – StoreStuff and YourPlace occupation evolution



Expected insights:

- After delivering the Exhibit, remember the candidate that Regular Boxes are 2,5sqm and Large Boxes are 10sqm.
- Candidates should remember key data that were given through the case. If not, gently remember that YourPlace has 2.000sqm and StoreStuff has 1.500sqm of area.
- Also, mention that, in this industry, a set of 4 Regular Boxes can easily be aggregated to form a larger one, or a Large Box can be dismantled, to form a 4 Regular Boxes. The cost of this adaptations is considered very low.
- Candidate should mention that YourPlace demand is increasingly looking for Regular Boxes, and that a building adaptation could be beneficial

StoreStuff

QUANTITATIVE ANALYSIS

After the second exhibit conclusion, lead the candidate to calculate the possible additional revenue if all the available Large Boxes were transformed into Regular Boxes. See suporting data below and communicate to candidate.

SOLUTION

Supporting Information:

- The YourPlace area is distributed equally on Large Boxes and Regular Boxes
- The cost to dismantle Large Box will not be considered for this analysis
- Candidate should assume that a 90% occupation rate would be achieved in the Regular Boxes category
- Sales/square meter is the same as current level in YourPlace: $2.850/sqm (Total 2021 Revenue/Total Area = $5,7Mi/2.000)

Expected Formula to calculate:

Additional Revenue = Total New Regular Boxes Created*Area of a Regular Box*OccupationRate*Sales/Area

Calculation guidelines:

- **Current amount of Large Boxes** = 50%*Total Area/Area of Large Boxes (50%*2.000/10 = 100 Large Boxes)
- **Unnocupied area of Large Boxes** = (1 – Occupancy Rate)*Total Area of Large Boxes ((1-30%)*1000 = 700sqm)
- **Total New Regular Boxes to be added from unnocupied Large Boxes** = Total Unnocupied area/Area of a Regular Box (700/2,5 = 280 new Regular Boxes)
- **Current amount of Regular Boxes** = 50%*Total Area/Area of Large Boxes (50%*2.000/2,5 = 400)
- **Additional Revenue of newly created Regular Boxes** = Occupancy Rate*Additional Number of Regular Boxes*Area*Sales/Area (90%*280*2,5*2850 = $1,795Mi/year)

Expected Insights:

Candidate should conclude that this would be a very beneficial move. Additional ~1,8Mi in revenue would add great value to the deal. Anyhow, candidate should mention that a better understanding of the feasibilities and costs should be done.

Real Estate
Self-Storage
M&A

Easy
Medium
Hard

StoreStuff

RECOMMENDATION QUESTION

We received a call from the StoreStuff CEO asking for our preliminary understanding of the problem. How would you summarize what we have learned so far to him?

SAMPLE RECOMMENDATION

A good recommendation should support the M&A transaction as a good move for StoreStuff to expand to Nevada, for 3 main reasons:

- The YourPlace business has already a good level of profit as a standalone company
- StoreStuff can leverage on synergies on both Revenue and Costs sides after the integration of the company that could add more value to the deal. On our calculations, Revenue opportunities adds up to the sum of $700k/year, while costs were estimated to give a $450k/year
- Finally, StoreStuff could remodel the YourPlace offering of boxes in terms of their size. Considering low occupancy of Large Box, a project to dismantle Large Boxes and created Regular Boxes has a potential benefit of ~$1,8Mi/year in revenues

The main risks of the transaction are related to the current state of the building (and a possible investment requirement to adaptations), and the possibility of demand level for Self Storage in Nevada to not be attractive.

Next Steps should touch on the required refinements to validate the strategic acquisition. Candidate should mention that a better understanding of the synergies, of the Nevada market and competitors, and of the value asked by YourPlace for the acquisition (valuation) would be logical next steps for our company to support StoreStuff.

NABACO

By Robinson Redford



Mining
Land Use Alternatives
Investment Decision

Easy
Medium
Hard

NABACO

Mining
Land Use Alternatives
Investment Decision

Easy
Medium
Hard

PROMPT

North American Bauxite (pronounced box-site) and Aluminum Company (NABACO) is an American mining company specializing in extracting bauxite. Bauxite is a type of sedimentary rock with an aluminum content of 40%-60% and is the world's principal source for aluminum metal.

NABACO'smineral extraction operations are concentrated in Australia, USA, Guinea, and Brazil, in that order. NABACO owns many inactive plots of land in these countries, them being either exhausted or unexploited bauxite reserves.

NABACO is wondering how to make the most of this idle land and has hired you to help them decide between alternatives. What criteria should NABACO consider when evaluating alternatives?

CLARIFYING POINTS (if asked)

- If asked about objectives, in addition to financial considerations, what NABACO is looking to get out of its selected alternative is a "social license to operate."
- NABACO is market leader with $12 billion in revenue, 5% net income, and a solid balance sheet and cash position.
- The land tends to be in rural locations, usually close to a community. That being said, NABACO has no specific country or plot of land in mind yet.
- Bauxite mines tend to be shallow, open-pit mines.

CASE GUIDANCE

This case is an opportunity for candidates to move beyond profitability and market-entry cases. Candidates are expected to take a macro perspective in a case where financials are not the main criteria for decision-making.

The case is designed to lead the candidate away from the original prompt. The candidate must make an effort to keep the objective in mind, first of helping NABACO choose criteria (rather than rank them), and then of making a decision based on the social benefit rather than financials.

A good candidate will drive the case starting at the quantitative analysis and demonstrate business-sense throughout.

NABACO

STRUCTURE GUIDANCE

The candidate should use a combination of internal and external considerations; external considerations should be loosely structured around PESTLE (most relevant are Political/Legal, Social, Environmental), and internal considerations should include Financials, Strategy, and Capabilities/Operational Impact.

A good candidate will not try to rank considerations; they will recognize that the relevance of each consideration will be determined on a case-by-case basis, depending on the unique location and features of each individual plot of land.

SAMPLE STRUCTURE

Internal

Financial:

- Budget
- Required return
- Payback period
- NPV

Operational:

- Capabilities (tech, human, infrastructure, expertise)
- Past failure
- Upkeep requirements
- Implementation length
- Partnerships required

Strategic:

- Company strategy
- Effect on brand
- Reversibility
- Ethical/compliance risk
- Diversification

External

Political/Legal:

- Legal?
- Government stability
- Government support
- Regulatory approval
- Property protection laws
- Law enforcement

Social:

- Local community
- Pressing local needs (food, water, housing, employment, health)
- Community engagement
- Visual impact

Environmental:

- Resources of the land (sun, wind, rain)
- Topography
- GHG emissions (or removal)
- Pollutants or waste
- Energy consumption (or creation)
- Water consumption
- Ecological impact

NABACO

BRAINSTORMING QUESTION (optional)

"What type of projects do you think could work for NABACO?"

A simple brainstorming exercise to test creativity and to ensure that the candidate has understood the context of the case.

SAMPLE ANSWERS

- Renewable energy farm (solar, wind)
- Conservation area
- Reforestation
- Agriculture
- School
- Space for cultural events
- Space for entertainment (mountain bike trail, rock climbing)

NABACO

QUANTITATIVE ANALYSIS

"With your guidance in mind, the President of NABACO Africa has applied your framework to an unexploited bauxite reserve in Guinea. After having conducted legal due diligence and evaluated her organization's operational capabilities, she has narrowed her alternatives down to three: install a solar panel farm, plant sorghum (a cereal crop native to East Africa used for **biofuel**), or build a school."

"NABACO would now like to analyze the financials. NABACO's internal policy states that for a project of this type to be considered, it must reach breakeven within **five years**. NABACO would also like to understand the pre-tax profitability of each alternative. Here is a table with sample investment data gathered by NABACO." **(share Exhibit 1)**.

Once computations have been completed, ask the candidate what they think. The candidate should **not** give a recommendation; they should say that all are valid due to falling within the five-year payback threshold, and that sorghum will generate the most profit, but that NABACO's objective is to have a "social license to operate" and therefore other criteria should be considered.

SOLUTION

The candidate should easily calculate the annual profit for each alternative, as well as the payback period. They should compare this to the five-year maximum.

The candidate should also calculate how many of the "sample investments" fit on the available land, in order to calculate the total profit for each alternative. Note that this step is not necessary to calculate the payback period (the ratio of investment to profit remains the same regardless of the number of 200m x 200m fields, for example).

The candidate should recognize that by nature, a field does not need to maintain a fixed dimension (ie. it is OK to have 2.5 fields).

The candidates should also recognize that it does not make sense to build 5 schools on the same piece of land.

Clarifying points (if asked):

- Solar Panels and Field dimensions are flexible.
- Dimensions already include area needed for maintenance, irrigation, etc.
- The area not occupied by the school would be considered unused, and therefore could still be adapted for any type of land use.

Location	Guinea		
Available Land Area	400m x 250m	**=100,000m2**	
Sample Investment Data	**Solar Panels**	**Sorghum Field**	**School**
Occupied Land Area	100m x 100m	200m x 200m	100m x 200m
Land Area	**=10,000m2**	**=40,000m2**	**=20,000m2**
Investment (k$)	28	80	180
Annual Revenue (k$)	11	50	140
Annual Operating Cost (k$)	4	20	100
Profit (k$) (Revenue - Costs)	**11-4=7**	**50-20=30**	**140-100=40**
Payback (yrs) (Investment/Profit)	**28/7=4**	**80/30=2.67**	**180/40=4.5**
	All paybacks <5 years, therefore all OK		
The available land area can accommodate… =100,000m2 / Land Area of the alternative	**10 solar farms**	**2.5 fields**	**1 school**
Total Profit (k$)	**7*10=70**	**30*2.5=75**	**40**

NABACO

EXHIBIT 1– ALTERNATIVES

Location	Guinea
Available Land Area	400m x 250m

Sample Investment Data	**Solar Panels**	**Sorghum Field**	**School**
Occupied Land Area	100m x 100m	200m x 200m	100m x 200m
Investment (k$)	28	80	180
Annual Revenue (k$)	11	50	140
Annual Operating Cost (k$)	4	20	100

NABACO

CHART ANALYSIS

Following the quantitative analysis, the candidate should express a need to conduct a qualitative analysis. Present the candidate with **Exhibit 2** and ask for their observations.

The candidate should relate back to the "social license to operate" prompt and identify which of the proposed alternatives best meets the social or environmental needs of the local community. Limited data is presented so as to force the candidate to come up with a conclusion based on their own logic. Argumentation should be sound.

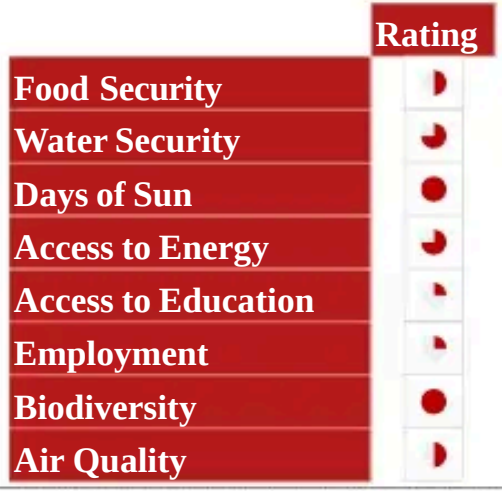
With this analysis, the candidate should recognize the **school** as the best option to support the local community. An excellent candidate will propose an additional land use for the excess land left unused by the school. This additional use should be consistent with NABACO's strategic goals and/or the community needs. A fourth alternative not included could be to plant a food crop instead of sorghum.

TAKEAWAYS

- High "Days of Sun" suggests an opportunity for solar panels, however high "Access to Energy" suggests that there is no pressing need.
- High "Water Security" and medium "Food Security" suggest an opportunity for agriculture meant for food, however we have specified earlier that the alternative being considered is for sorghum, meant for biofuel production.
- Low "Employment" supports both sorghum or the school (staff + future employability).
- Low "Access to Education" combined with the Age Pyramid and low "Employment" point to the school best fulfilling the community's needs.
- "Biodiversity" and "Air Quality" are not necessarily relevant to the analysis; however, they can be linked.
- A good candidate will not look for insights where there are none (ie. "Biodiversity", or the male-female distinction in the Age Pyramid).

Clarifying points (if asked):

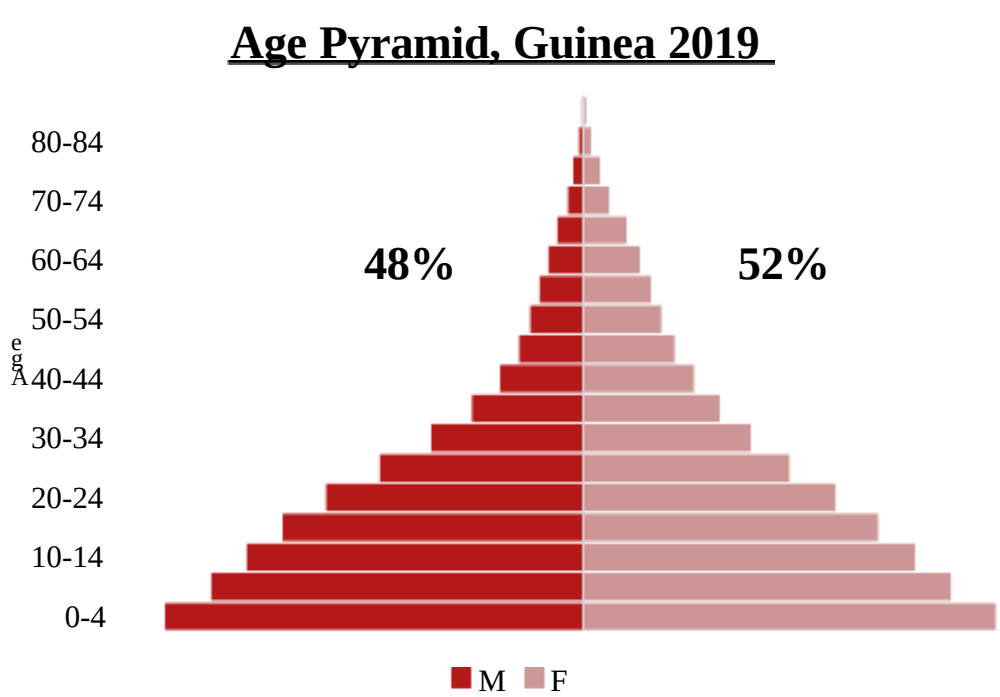
- The rating given is for the presence of a specific criteria, not the level of need (ie. there is a high level of Biodiversity in the area currently).
- Despite the payback being calculated on five years, the length of the project is indefinite. Candidate can assume minimum fifteen years.



NABACO

EXHIBIT 2– SITE-SPECIFIC INFORMATION

	Rating
Food Security	
Water Security	
Days of Sun	
Access to Energy	
Access to Education	
Employment	
Biodiversity	
Air Quality	



NABACO

BRAINSTORMING QUESTION

"What risks should NABACO consider before going ahead with this alternative?"

SAMPLE ANSWERS

School:

- 15-year operation period: is that enough time to have an impact? What will the community do afterwards?
- Will NABACO be able to attract qualified staff to operate the school?
- Will NABACO need to partner with an external organization or with the Guinean authorities?
- Does the local community have a preference for a different alternative?
- Payback period is 4.5 years. What if the investment ends up being greater than $180k?

Agriculture:

- External risks due to climate or pests
- Ecological impact (ie. water usage, biodiversity)
- Use of chemicals or creation of waste
- Will NABACO have to implement and maintain control mechanisms?
- Is there demand for this crop?
- Is there qualified and sufficient staff?
- Is there access to other inputs needed (fertilizers, pesticides)?
- Will the grain processing be on-site?

Mining
Land Use Alternatives
Investment Decision

Easy
Medium
Hard

NABACO

RECOMMENDATION QUESTION

The President of NABACO Africa has just logged in to the Zoom call. She only has one minute to hear what you have to say. What will you tell her?

SAMPLE RECOMMENDATION

I recommend NABACO to build a school …

…because it is the option that best meets the community's needs, which is NABACO's principal objective. The remaining unused land can be employed for agriculture to serve the local community.

The mains risks that I see are if the project goes over-budget causing the payback period to extend beyond five years, and what would happen if we are forced to close the school after fifteen years.

To combat these risks, NABACO should negotiate for greater tax breaks from the Guinean government thus increasing the annual return from the school, and for NABACO to keep the school open beyond fifteen years, by first exploiting other areas of the mine.

PaintTech

By Daniel Plested



Chemicals
Product launch/Pricing
Sustainability

Easy
Medium
Hard

PaintTech

Industry
Case Type
Function

Easy
Medium
Hard

PROMPT

Your client is ChemCo, a global manufacturer of Chemical specialties based in the UK with profits of approximately $200M. Although Petrochemical solvents are necessary in paint formulators, they are a source of CO2 emissions, represent a safety hazard (they are flammable) and, also, a health hazard to operators and painters.

ChemCo has recently developed an innovative chemical ingredient that paint manufacturers can include in their formulations allowing them to eliminate all Petrochemical solvents from their formulation and replace them with water.
Chemco's CEO has hired you to understand whether it is a good idea to proceed on commercializing the product.

CLARIFYING POINTS (if asked)

- The company will manufacture the product in the UK and commercialize it in the US.
- Chemco is very interested on generating positive impact to climate, but the project needs to be profitable.
- The performance of the paint with water does not change compared to the traditional formulation
- Carbon credits can be sold in the market.
- No other competitor has developed yet a competitive technology.
- Fixed costs will increase by $10M due to the new operation.

CASE GUIDANCE

- This case is Interviewee-led and ideally the candidate should guide the case to the questions showed in the following slides.
- The case will evaluate the ability of the candidate to approach to a product launch case and his/her ability to price a product in a structured approach.
- The numbers required for the calculation are in the solution.
- When estimating the price of the product, A good candidate will propose climate benefits or sustainability benefits as a source of value. An outstanding candidate will try to suggest carbon credits as a potential source of economic benefit. Give the opportunity to the candidate to come to these conclusions on their own, progressively giving hints as required.

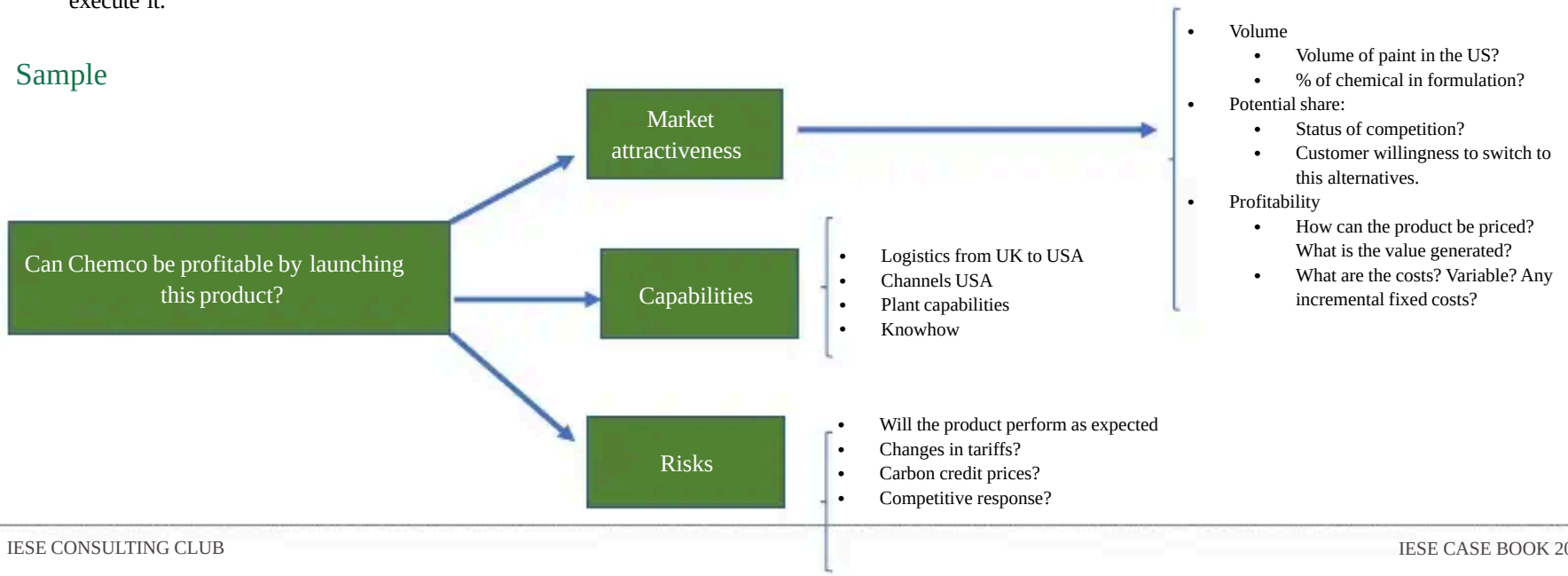
PaintTech

STRUCTURE GUIDANCE

What are the relevant factors that you will consider to solve this problem?

- A good candidate will develop a tailored market entry/product launch structure.
  An outstanding candidate will also delve deeply into "how to price the product".
- An acceptable structure should show an intention to size the potential market for this product and assure that Chemco has the capabilities to execute it.

Sample



PaintTech

Industry
Case Type
Function

Easy
Medium
Hard

BRAINSTORMING QUESTION

What are the different ways in which this product may add value to the paint manufacturer?

SAMPLE ANSWERS

- The candidate may use many approaches for this response, but the answer should cover benefits that are not only financial.
- After the candidate rans out of ideas, try to give hints that allow him or her to talk about carbon credits.

Financial:

- Savings from raw materials. (No need for solvents)
- Insurance savings
- Carbon credits
- Transport savings

Nonfinancial:

- Differentiation from competitors
- Reputation uplift/PR benefit
- Safety of employees
- Safety of the process
- Access to new market niches

PaintTech

QUANTITATIVE ANALYSIS

What are the potential revenues of the chemical product once the business reaches stable growth?

- Let the candidate lay out an structured approach to respond and share the datapoints when asked to do so, the candidate may need hints to ask for "carbon credits".
- When discussing the "value generated", go to the BRAINSTORMING question on the next slide and then come back to this calculation.

SOLUTION

Potential Revenues will be = Volume (Kgs of chemical product)* Price/kg

Volume Calculation:

- Size of the US paint market in volume: 900k tons per year
- 2.4 kg of chemical are required for every 100kg of Paint.
- Share of market interested in a green alternative – assume 20%.

Price:

- **Price floor** / Variable cost=$4/kg
- Price ceiling (Value generated)
  - Raw material savings
    - 1kg of solvent costs $0.8/kg
    - 100KG of paint has on average 30 kg of solvent.

    Computation: Value from 1 kg of Chemical **:** ($0.8/kg solvent*(30%*100)kg solvent)/(2.4 kg chemical)= **$10/kg of chemical**
  - Additional value from Carbon credits.
    - Each ton of CO_2 emitted costs the company $100 through carbon credit.
    - 1kg of solvents represents 800gr of CO_2 emissions for the customer.

    Computation: Value from 1 kg of Chemical **: (**$100/ton CO_2)* **(**0.8 kg CO_2/kg solvent)*(30kg of solvent)/(2,4 kg of chemical)= **$1/kg of chemical**

    Total value: $10 + $1 = 11
- Where to price it?
  - The candidate should suggest a price point that splits the value created between the customer and Chemco, any division will make sense as long as the candidate supports it appropriately.

Volume calculation: (900k) ton of paint * 2.4% * 20% = **4320 ton of chemical**

Assuming a $10/kg price - Revenue: 4320 ton * $10/kg = **$43.2M**

PaintTech

QUANTITATIVE ANALYSIS

What are the expected profits?

SOLUTION

- **Gross Profit : 4320 ton* (10-4)$/kg= $25.9M**
- **Subtracting the extra 10M in Fixed costs.**
- **Total Profit: $15.9M**
- **Increase in profits: 15.9/200 ~ 8%**

PaintTech

Industry
Case Type
Function

Easy
Medium
Hard

BRAINSTORMING QUESTION

What are the main challenges and risk that you think Chemco may face by launching this product?

SAMPLE ANSWERS

- The candidate may use many approaches for this response, hopefully the candidate covers different types of challenges and risks.
- Examples of operational/technical
  - Performance of the "green paint" compared to the traditional counterpart
  - Supply chain related (procurement)
  - Adjust manufacturing site for the new product.
  - Compatibility with other ingredients.
- Regulatory:
  - Change in prices of carbon credits.
- Commercial:
  - Customer acceptance of new technology.
  - Price changes on petrochemical solvents.
  - Price elasticity of paint manufacturers.

PaintTech

Industry
Case Type
Function

Easy
Medium
Hard

RECOMMENDATION QUESTION

Chemco's CEO is on its way to the room and will like to hear a recommendation based on our recent findings .

SAMPLE RECOMMENDATION

A good recommendation should include:

- Whether to launch or not the product and at what price Example:
  - My recommendation is that ChemCo should launch the product at $X/kg
- Arguments backing the previous two recommendations. Example:
  - Profits will grow by XX%.
  - Impact on environment of XX tons of CO2.
- Risks that should be further evaluated. Examples:
  - Change in price of carbon credits
  - Performance not as expected
  - Assumption on % of the market that they will capture
  - New entrants (competition response)
- Next action that Chemco should do. Example:
  - Pilot tests, launch in one small city, approach first customers, sensitivity analysis, start the required plant adjustments etc.

IoT and Flexible Loans

By Javier Burgos



Financial
M&A
Synergies

Easy
Medium
Hard

IoT and Flexible Loans

Industry
Case Type
Function

Easy
Medium
Hard

PROMPT

Industrial Bank (IB) is a leading financial institution providing loans to manufacturing companies to finance machinery and Capex-intensive equipment.

IB is considering to acquire IoTech, which installs IoT (Internet of Things) devices in production machines and leverages their usage data for various uses.

IB believes that having this production data will be useful to launch a new product: flexible loans in which clients repay the loan instalments in a per-use basis (this means, as they produce), instead of as in a standard fixed-payment loan. This could be attractive for seasonal businesses, for instance.

IB's president would like you to evaluate if the value proposition of the new flexible loans after acquiring IoTech would be attractive for the bank.

CLARIFYING POINTS (if asked)

- What is the objective? What does attractive means? → To acquire more clients and improve profitability of the bank.
- Why is IB interested in this acquisition? → To diversify its product offering and add new solutions to its clients.
- Where is the bank located and/or where does it operate? → United States.

CASE GUIDANCE

Context: This case engages the candidate in how the combination of two business models (industry 4.0 and traditional financing) can generate an innovative solution to the banking industry: flexible loans.

Objective: The case is designed to push the candidate to think creatively – to evaluate the increased value proposition to the bank's clients, explore benefits and downsides, competencies and risks to implement, among others.

Prompt: The prompt may suggest an M&A case, but the prompt specifically asks to evaluate the attractiveness of the new flexible loan product. Therefore, listening is evaluated.

Industry
Case Type
Function

Easy
Medium
Hard

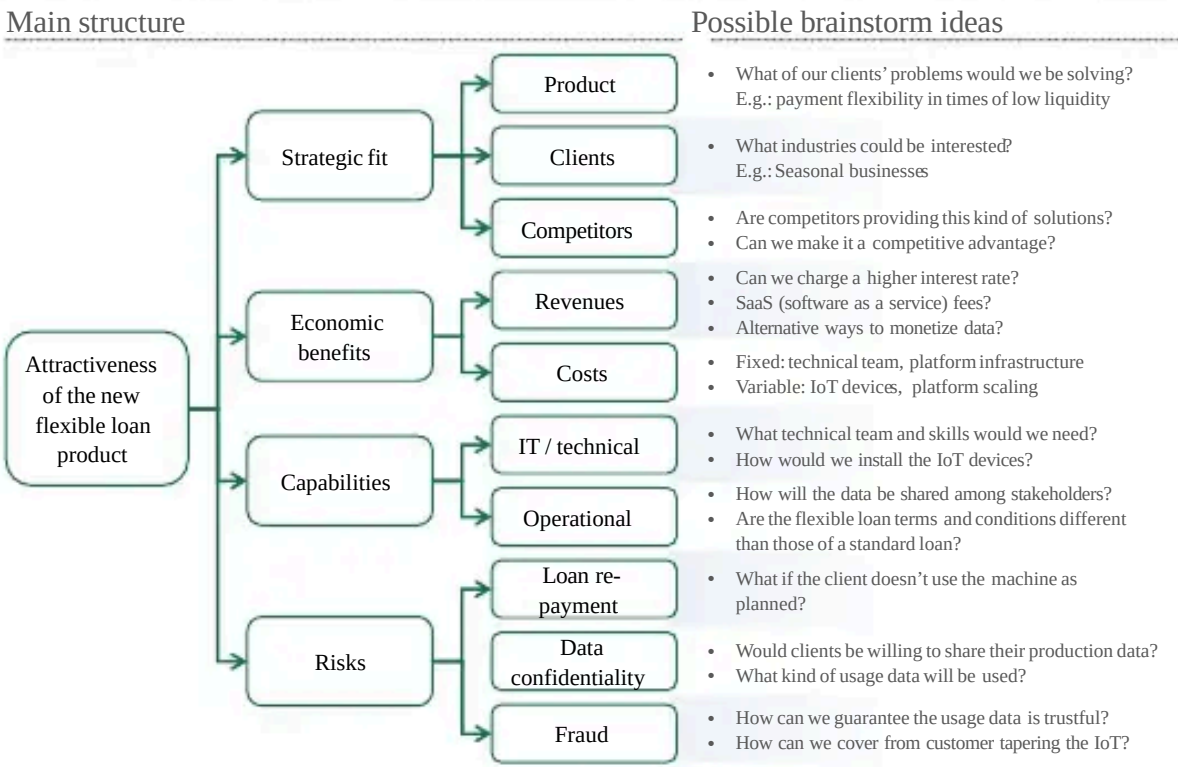
IoT and Flexible Loans

STRUCTURE GUIDANCESAMPLE STRUCTURE

The case is intended to evaluate the creative thinking of the candidate.

A great structure will be one the provides out-of-the-box ideas of the implications of launching the flexible loan product (e.g.: in revenues, monetizing usage data in other ways, such as predictive maintenance)

Suggested next course of action: evaluate the economic benefits of the flexible loan.



Industry
Case Type
Function

Easy
Medium
Hard

IoT and Flexible Loans

TABLE AND CHART INTERPRETATION (EXHIBIT 1)

Read to the candidate: To evaluate the attractiveness of the flexible loan, IB is considering to analyze the case of ToyGame, a toys manufacturing company. To start, ToyGame shared next year's financial projections with IB and IB has asked you to help them understand the forecast. **What insights would you provide?** After reading, show Exhibit 1 to the candidate (next slide).

GUIDANCE

The objective of Exhibit 1 is to understand the candidate's top-down interpretation of basic financial statements from a strategy perspective .

The main conclusion is that ToyGame could be an attractive client for the flexible loan proposal since it has a highly seasonal business (negative cashflows in the first quarters but overall annual positive cashflow)

SOLUTION

Possible insights
Ordered top-down from 1 to 6

1. High revenues at the end of the year → **Insight:** Implies a seasonal business

2. Drop in price per unit (candidate should do the calculation) → **Insight:** might imply a growth strategy (discounts or liquidating).

6. Positive annual cashflow but negative cashflow in QI and QII → **Insight:** Even though EBIT is positive, debt repayments creates negative cashflows.

US$ 000s	QI	QII	QIII	QIV	Annual
Profit & Loss Statement					
+ Revenues	600	600	1,200	3,000	5,400
Units sold (000s)	*10*	*20*	*40*	*100*	*170*
- COGS	-300	-300	-600	-1,500	-2,760
= Gross profit	240	300	600	1,500	2,640
Gross margin, %	*40%*	*50%*	*50%*	*50%*	*49%*
- Operational expenses	-150	-160	-160	-450	-920
- Depreciation	-15	-10	-30	-30	-105
- Other expenses	0	-35	65	-45	-15
= Operating profit	75	75	475	975	1,600
Profit margin, %	*13%*	*13%*	*40%*	*33%*	*30%*
Cashflow Statement					
+ Operating profit	75	75	475	975	1,600
- Debt instalment*	-275	-275	-275	-275	-1,100
= Cash flow	-200	-200	200	700	500

3. Gross margin increases → **Insight:** more efficient operations, could be because of new assets (machinery, equipment).

4. Increase in depreciation from QI to QII → **Insight:** Suggests investment in new fixed assets.

5. Positive EBIT and higher margins → **Insight:** Growth strategy seems profitable.

It is not expected the candidate to mention every insight.

Industry
Case Type
Function

Easy
Medium
Hard

IoT and Flexible Loans

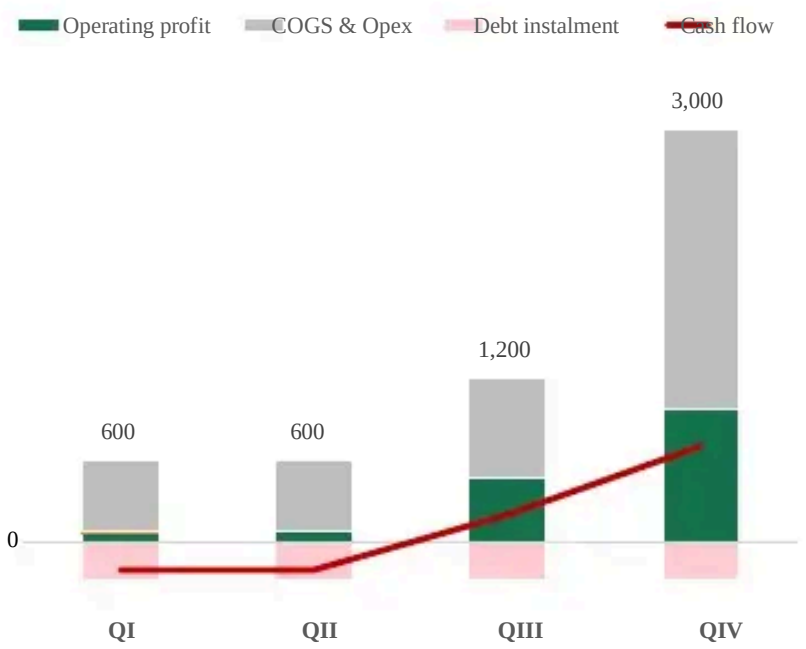
EXHIBIT 1

ToyGame's financial statements for next year

US$ 000s	QI	QII	QIII	QIV	Annua
Profit & Loss Statement					
+ Revenues	600	600	1,200	3,000	**5,400**
Units sold (000s)	10	20	40	100	170
- COGS	-360	-300	-600	-1,500	**-2,760**
= Gross profit	240	300	600	1,500	**2,640**
Gross margin, %	40%	50%	50%	50%	49%
- Operational expenses	-150	-160	-160	-450	**-920**
- Depreciation	-15	-30	-30	-30	**-105**
- Other expenses	0	-35	65	-45	**-15**
= Operating profit	75	75	475	975	**1,600**
Profit margin, %	13%	13%	40%	33%	30%
Cashflow Statement					
+ Operating profit	75	75	475	975	**1,600**
- Debt instalment*	-275	-275	-275	-275	**-1,100**
= Cash flow	**-200**	**-200**	**200**	**700**	**500**

*Includes interest expense and principal payment.

ToyGame's projected revenues and cash flow



Industry
Case Type
Function

Easy
Medium
Hard

IoT and Flexible Loans

QUANTITATIVE ANALYSIS (EXHIBIT 2)

First, share Exhibit 2 with the candidate (next slide).

Read to the candidate: Industrial Bank considers that ToyGame is a great candidate for a flexible loan – it could solve its liquidity issues of negative cash flows in QI and QII by allowing to repay the loan later in the year according to their seasonal production and sales.

In Option 1, ToyGame would have to incur in an additional 10% financing cost to cover any negative cashflow balance. Therefore, IB believes that it can charge a higher interest rate on the flexible loan if ToyGame would not have to incur in this additional financing.

A) What is the maximum annual interest rate that IB can charge on the flexible loan for the options to be indifferent from each other?
B) What would be a reasonable rate to charge?

GUIDANCE

The math is simple, the challenge is to understand the difference between options and structure the calculation.

HINTS

HINT #1
The annual cost of financing is 10%; therefore, the quarterly rate is 2.5%.

HINT #2
For simplicity, the cost of financing should be calculated on the ending cumulative cashflow of the period.

SOLUTION

OPTION 1 (US$ 000s)	**QI**	**QII**	**QIII**	**QIV**	**Annual**
Quarterly cash flow	-200	-200	200	675	-
Cumulative cashflow	**-200**	**-400**	**-200**	**500**	**500**
Cost of financing	5	+ 10	+ 5	+ -	= 20
	2.5% of 200	2.5% of 400	2.5% of 200	Positive cash flow, no financing needed	

20 out of a $1,000 loan is equal to 2%

A) Therefore, the maximum interest rate would be 12%

B) A reasonable rate could be 11%, to split the benefit among IB and ToyGame

IoT and Flexible Loans

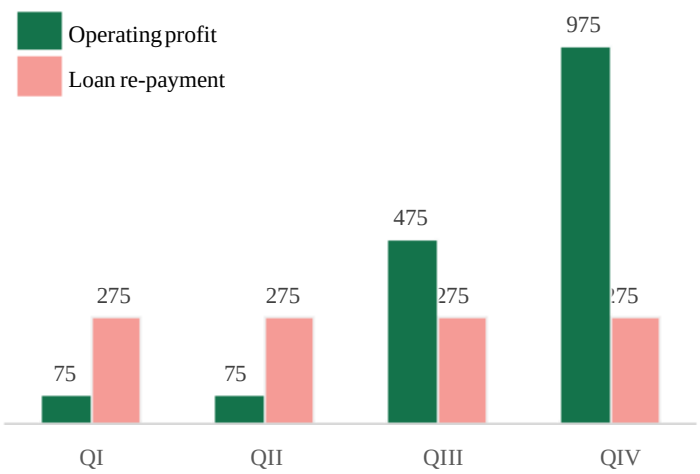
EXHIBIT 2

Loan amount:
$1,000,000
Same for both options

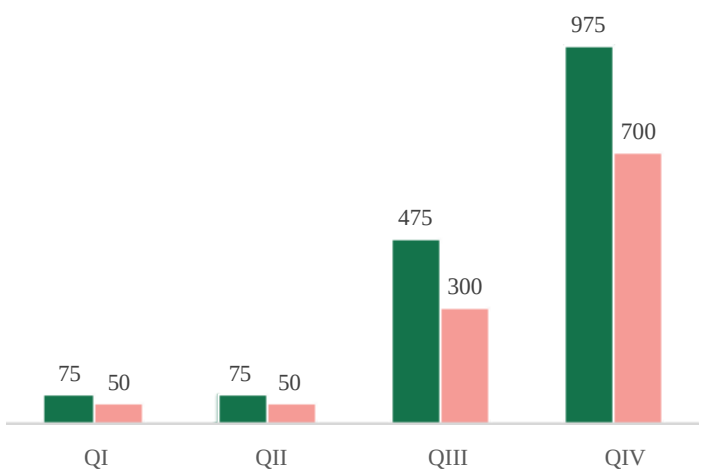
Annual interest rate:
10%

Amount to be re-paid:
$1,100,000

OPTION 1.Standard loan (fixed payments)
US$ 000s



OPTION 2.New flexible loan using IoTech
US$ 000s



Quarterly cash flow	-200	-200	200	675	25	25	175	275
Cumulative cashflow	**-200**	**-400**	**-200**	**500**	**25**	**50**	**225**	**500**

IoT and Flexible Loans

Industry
Case Type
Function

Easy
Medium
Hard

BRAINSTORMING

Brainstorming question 1:
What risks could you foresee of offering the new flexible loan based on production usage data measured by IoTech?

Brainstorming question 2:
What other benefits can Industrial Bank obtain from the new product?

SAMPLE ANSWERS

NOTE: Do as many brainstorming questions as time allows, move to recommendation after total case time is 30 minutes at this point.

Categories	Loan re-payment	Fraud	Data confidentiality
Ideas	• What if the company doesn't produce as expected? • What systems can we put in place as thresholds for re-payment?	• How can IB secure that the companies don't tamper the IoT device? • How can IB guarantee data is shared trustfully among stakeholders?	• How can IB address companies' reluctancy to share their production data? • Can the data shared be as simple as 'time in production'?

Categories	Monetize data	Clients' profiling	Access to new market segments
Ideas	• Can we monetize the usage data with other third parties like insurance companies or for preventive maintenance purposes?	• Could the usage data help the bank to predict the credit profile of certain type of clients / industry segments?	• Could the flexible loan product give IB access to other high-capex market segments that usually require another type of financing (e.g.: leasing)?

Industry
Case Type
Function

Easy
Medium
Hard

IoT and Flexible Loans

RECOMMENDATION QUESTION

Read to the candidate: The executive committee leading the acquisition of IoTech is calling you to provide a summary of the evaluation of the flexible loan product so far, **could you please brief them on the initial findings?**

GUIDANCE

A good recommendation would be concise, top-down structured and highlighting the relevant points discussed in the case.

As the case involves a complex product and different companies (IB, IoTech and ToyGame), clear communication would be key to provide a great answer.

SAMPLE RECOMMENDATION

Acquiring IoTech would allow IB to offer the new flexible loan, which could be an attractive product to offer because of three reasons:

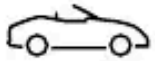
1. New solution for seasonal businesses: as we can offer loan re-payments aligned with the seasonality of our clients' operations.
2. Opportunities to push higher interest rates: as we are helping our clients to solve their liquidity issues.
3. Opportunities to monetize usage data: for preventive maintenance or through partnerships with insurance companies.

However, there are risks worth considering, for instance the risk of fraud by tampering the IoT device or the risk of data confidentiality or reluctancy of clients to share their production data.

I believe further insights could be obtained from these risks and further benefits if we continue to a due diligence phase in the acquisition of IoTech.

Fastcar

By CR7



Automotive
Market entry
Profitability

Easy
Medium
Hard

Fastcar

Automotive
Market entry
Profitability

Easy
Medium
Hard

PROMPT

- Fastcar is a big multinational automotive company in the luxury segment
- It has the headquarter in Germany in production plants in Europe, North America and Latin America
- Fastcar is considering to expand its sales network and to enter in Pakistan.
- The company is also asking what is the best supply chain strategy: shipping cars from Europe or opening a production plant in Pakistan.
- The CEO of Fastcar has hired you to assess this opportunity and which supply chain strategy should pursue.

CLARIFYING POINTS (if asked)

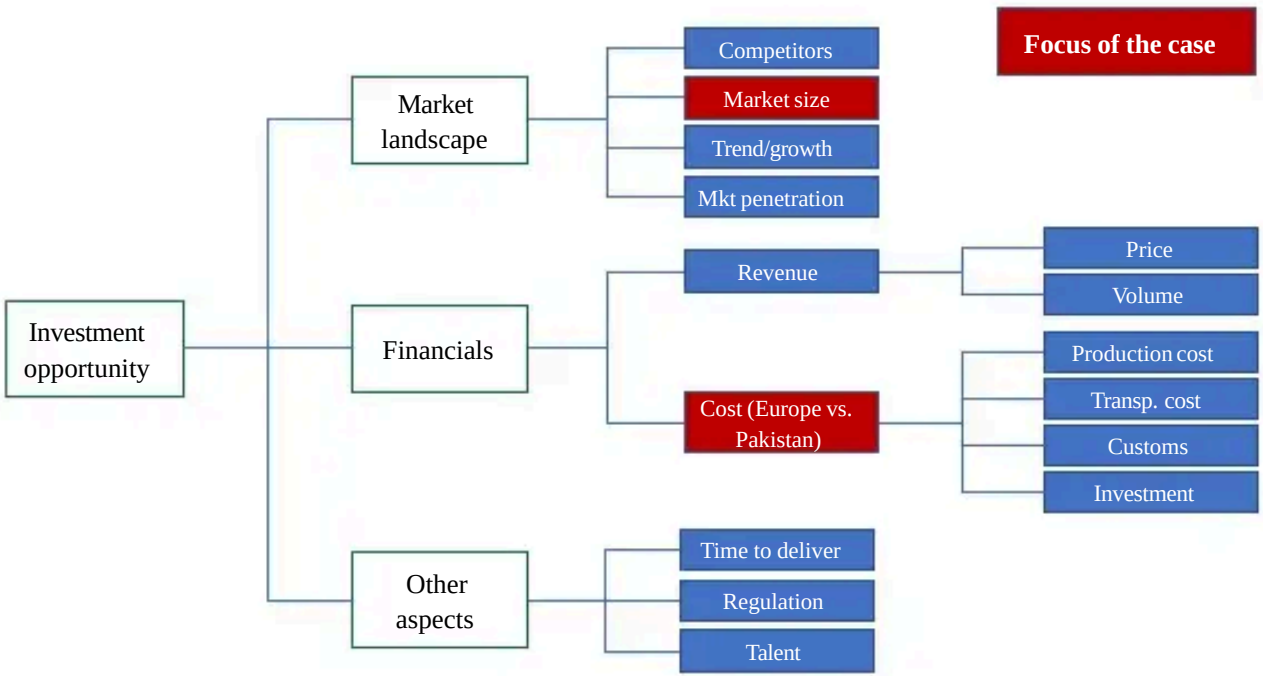
- Fastcar has only one brand of cars, in the luxury segment. Its main competitors are Mercedes, Audi and BMW.
- There are no financial constrains, but all the investments should have a maximum payback period of 5 years.
- 5 years ago, Fastcar tried to enter in Asia, in the Chinese market, but it decided to quit after 2 unsuccessful years, due to local regulations. Legislative environment will not represent an issue this time.
- After-sales and maintenance market are outside the scope of this case

CASE GUIDANCE

- This is an interviewer led case that can be adjusted for different difficulty levels and skills tested
- The case makes the candidate (i) assess the attractiveness of a market opportunity (market sizing), (ii) estimate the market penetration (iii) evaluate different alternatives and translate them into business recommendations
- The brainstorming part requires the candidate to apply common sense and knowledge of a familiar business (restaurants) to identify possible business opportunities.
- The quantitative part requires an organized and structured approach to be solved

Fastcar

SAMPLE STRUCTURE



STRUCTURE GUIDANCE

- The case allows for a very wide structure, however the (i) analysis of the market, (ii) the financials and (iii) the operational aspect (since it was asked in the prompt), are the must haves for a complete analysis
- The candidate should be able to mention the breakdown of the price: base price, optionals and discounts
- Regarding the costs, the candidate should be able to compare the all the different cost items between the 2 scenarios: shipment from Europe and production in Pakistan

Automotive
Market entry
Profitability

Easy
Medium
Hard

Fastcar

MARKET SIZING QUESTION

What is the market size of luxury cars in Pakistan?

SAMPLE ANSWER

- Assumptions:
  - Population in Pakistan: 220M
  - No population growth (for simplicity)
  - Average household size: 5 people/household
  - Share of wealthy household: 10%
  - All wealthy households, on average, own a luxury car
  - Average car life-cycle: 10 years
  - In the market there is only one competitor: BMW
- Calculation solved
  - Number of luxury cars sold per year: (220M/5)*10%*10%/10 = 440,000 cars

Automotive
Market entry
Profitability

Easy
Medium
Hard

Fastcar

REVENUE ESTIMATION QUESTION

What are the forecasted revenues of Fastcar in Pakistan? But before going into the calculation what are the factors that affect the revenues? What are the methodologies to determine the price?

SAMPLE ANSWER – FACTORS FOR REVENUES

The candidate should summarize the following aspects:

- Economic factors
  - Price of Fastcar
  - Price of competitors
  - Promotions
- Non-economic factors
  - Marketing effort
  - Availability of cars
  - Reputation of the brand

SAMPLE ANSWER – PRICE DETERMINATION

The candidate should point out and explain the following methodologies:

- Cost-based pricing: determined with a mark-up is added to the cost of the car
- Competitors based-pricing: competitors' price
- Value based-pricing: willingness to pay of customers

Fastcar

REVENUE ESTIMATION QUESTION

What are the forecasted revenues of Fastcar in Pakistan? But before going into the calculation what are the factors that affect the revenues? What are the methodologies to determine the price?

SAMPLE ANSWER – REVENUE CALCULATION

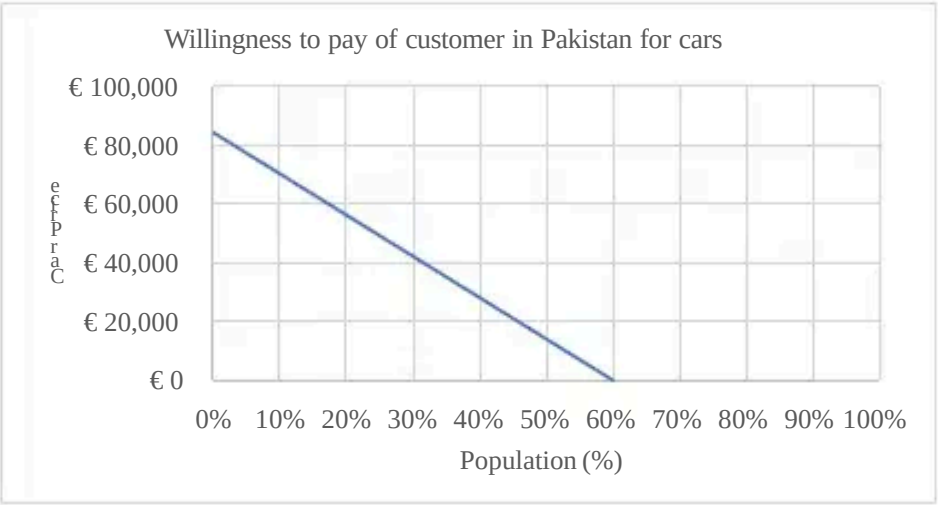


Exhibit 1 – Willingness To Pay of customers for cars

Assumptions:

- Market penetration: 10% in 1° year, 25% in 2° year, 50% in 3° year
- Competitor price: €75k
- Competitors based-pricing

Calculation solved

- 1° year : 440,000*10%*75,000 = €3.3B
- 2° year : 440,000*25%*75,000 = €8.25B
- 3° year : 440,000*50%*75,000 = €16.5B

Fastcar

COST ANALYSIS

Cost item	Base scenario	Index EU	Index Pakistan
Production cost	50,000€	110	90
Transportation cost	1,500€	170	10
Customs duty	1.25%	3000	0

Exhibit 2 - Index cost in Europe and Pakistan

Region	Investment	Time to deliver a car
Europe	50,000,000€	4 months
Pakistan	1,000,000,000€	5 months

Exhibit 3 – Cost of the investment and time to deliver a car from Europe and Pakistan

- The candidate should be able to recognize that this the base scenario represents the point 100 of the index
- The custom duty is applied on the production cost
- The customer should give some explanation on why the time to deliver a car is higher if produced from Europe than from Pakistan. Possible reasons are:
  - Higher waiting time from suppliers and third-party manufacturers
  - More time is required for training the local workers
- Roundings are allowed
- The candidate should not consider any discount rate for summing up the costs

Fastcar

COST ANALYSIS - EUROPE

Europe	1° year	2° year	3° year	4° year	5° year
Prod. Cost	€50k*110/100*44,000 cars = €2.42B	€50k*110/100*110,000 cars = €6.05B	€50k*110/100*220,000 cars = €12.1B	€12.1B	€12.1B
Trans. Cost	€1.5k*170/100*44,000 cars = €112.2M	€1.5k*170/100*110,000 cars = €280.5M	€1.5k*170/100*220,000 cars = €561M	€561M	€561M
Customs	€2.42B*1.25%*3000/100 = €907,5M	€6.05B*1.25%*3000/100 = €2.72B	€12.1B*1.25%*3000/100 = €4.54B	€4.54B	€4.54B
Total	€3.44B	€8.6B	€17.2B	€17.2B	€17.2B

Total cost: €63.6B

COST ANALYSIS - PAKISTAN

Pakistan	1° year	2° year	3° year	4° year	5° year
Prod. Cost	€50k*90/100*44,000 cars = €1.98B	€50k*90/100*110,000 cars = €4.95B	€50k*90/100*220,000 cars = €9.9B	€9.9B	€9.9B
Trans. Cost	€1.5k*10/100*44,000 cars = €6.6M	€1.5k*10/100*110,000 cars = €16.5M	€1.5k*10/100*220,000 cars = €33M	€33M	€33M
Customs	-	-	-	-	-
Total	€1.99B	€4.97B	€9.93B	€9.93B	€9.93B

Total cost: €36.7B

DIFFERENCE IN COST = €26.7B

Automotive
Market entry
Profitability

Easy
Medium
Hard

Fastcar

RECOMMENDATION QUESTION

Great, can you provide a brief summary and your feedback on Fastcar about entering in the luxury car market in Pakistan?

SAMPLE RECOMMENDATION

The candidate should summarize that:

- Fastcar should enter in the Pakistan market because the market is very promising, achieving 50% of the market in 3 years, corresponding to €16.5B in revenues.
- Considering only economic factors, Fastcar should open the production plant in Pakistan, achieving cost saving of €26.7B in 5 years
- Building a production plant can improve the reputation of the company and strengthen the brand in the local market

A great candidate should also discuss any risks and next step:

Risks

- Building a new factory may require more time than forecasted
- Attracting, training and retaining the local talent
- Setting up a supply chain of raw material and components

Next steps:

- Design of the plan for opening the plant
- Analysis of local regulation

Travel Wizard

By Sahaj Garg



Airlines — Easy
Competitive Threat — Medium
Profitability — Hard

Travel Wizard

Airlines
Competitive Threat
Profitability

Easy
Medium
Hard

PROMPT

The R&D team of Travel Wizard, a technology innovator, just announced that they have successfully invented a teleportation device which they plan to launch commercially next month. This device consists of a transmission room and a receiver room which can be placed at any distance and this one-of-a-kind device will be able transport a passenger between the two rooms within seconds.

Your client is the **owner & CEO of SG Airlines**, one of the biggest airlines in the world and she wants to know a few things:

(1) How many customers should they expect to lose to Travel Wizard?

(2) What will be their annual reduction in profit as a result?

CLARIFYING POINTS (if asked)

- Assume that SG Airlines loses customers only to Travel Wizard and to no other player
- Travel Wizard only has 2 teleportation rooms for now, and does not intend to create any new teleportation rooms
- One room will be placed in New York, while the other one will be placed in London. Each room can act as a transmitter or a receiver room
- The main objective for the owner/CEO of SG Airlines is to calculate the loss in profit and to give ideas to turnaround the business
- SG Airlines is not looking to enter the teleportation business

CASE GUIDANCE

In this case, the candidate will need to lead through directive questioning. Although the answer may seem straightforward, the case will force the candidate to analyze the problem from different perspectives; it will demand not only math and problem-solving skills, but also creativity.

A strong candidate will quickly realize that in order to answer the questions of SG Airlines' CEO, it will be necessary to assess the annual demand of the teleportation device.

Airlines
Competitive Threat
Profitability

Easy
Medium
Hard

Travel Wizard

STRUCTURE GUIDANCE

The main focus of the first part of this case is predicting demand & estimating loss, hence the structure should include **market opportunity** as well as **profitability**. The interviewee may estimate the size of the market first, and then develop a structure. A big aspect of this case is creativity and thinking about a unique product, and this should reflect in the interviewee's structure.

SAMPLE STRUCTURE

- **Market opportunity:** Is there a market for teleportation? What is the market size? What are the travelling trends in London and New York? What is the demographic of the target audience?
- **Potential share:** Are there barriers to entry or can other companies join the teleportation industry? Do our customers need this device, and can this device meet expectations? Does Travel Wizard have marketing capabilities? Can our customers afford this means of transport? What is their willingness to pay?
- **Potential profit:** What is the lost revenue? What would be the impact on margins and profitability? Do they have other ways to generate profits?
- **Capabilities & risks:** Does Travel Wizard have the ability to scale this device to other locations as well? Can this industry be regulated by the government to provide us an advantage?

The candidate may choose to dive deeper into other areas, but must start by sizing the demand for the teleportation device across these regions.

Airlines
Competitive Threat
Profitability

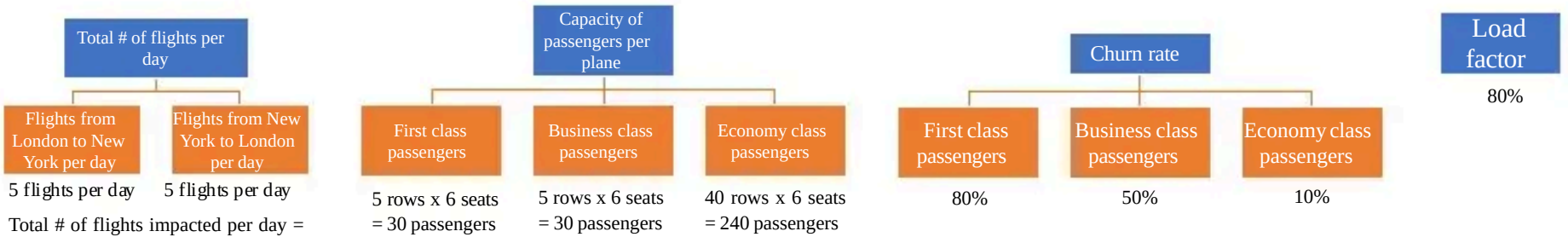
Easy
Medium
Hard

Travel Wizard

MARKET SIZE ANALYSIS

Provide the candidate only with the following information: SG Airlines currently runs 5 flights from London to New York and 5 flights from New York to London per day. SG Airlines' flights have 5 first class rows, 5 business class rows and 40 economy class rows, with 6 seats in every row.

Market size (provide only if asked): The suggested framework is: **Total # of flights per day x Capacity of passengers per plane x Churn rate x Load factor**



First Class: 30 first class passengers / flight x 80% = 24 first class passengers / flight = 240 first class passengers / day

Business Class: 30 business class passengers / flight x 80% = 24 business class passengers / flight = 240 business class passengers / day

Economy Class: 240 economy class passengers / flight x 80% = 192 economy class passengers / flight = 1920 economy class passengers / day

(240 first class passengers x 80%) + (240 business class passengers x 50%) + (1920 economy class passengers x 10%) = **192 lost first class passengers + 120 lost business class passengers + 192 lost economy class passengers ~ 500 lost passengers per day ~ 180,000 lost customers per year**

Airlines
Competitive Threat
Profitability

Easy
Medium
Hard

Travel Wizard

REVENUE LOSS ESTIMATION

After finding the number of lost passengers per day, the candidate should estimate the loss of revenue per annum for SG Airlines.

(Provide only if asked) The flight tickets currently sell for $3,000 for first class, $2,000 for business class and $1,000 for economy class passengers

- First Class: 192 passengers / day x 360 days x $3,000 = $207.4 million
- Business Class: 120 passengers / day x 360 days x $2,000 = $86.4 million
- Economy Class: 192 passengers / day x 360 days x $1,000 = $69.1 million

Total lost revenue per year = **$363 million**

The candidate should note that first class passengers are leading to 57% loss in revenue, while economy class passengers are leading to only 19% loss in revenue.

ESTIMATION FOR REVENUE NEXT YEAR

To move forward, ask the candidate to calculate the estimated revenue for SG Airlines for next year, after losing customers to Travel Wizard.

(Provide only if asked) The revenue growth rate by 2% per annum.

Revenue in previous year:

- First Class: 240 passengers / day x 360 days x $3,000 = $259.2 million
- Business Class: 240 passengers x 360 days x $2,000 = $172.8 million
- Economy Class: 1920 passengers x 360 days x $1,000 = $691.2 million

Revenue for SG Airlines last year = **$1,123 million** or **$1.12 billion**

Predicted revenue for next year =

Revenue in previous year x (1 + Growth rate) – Lost revenue

= $1,123 million x (1 + 2%) - $363 million

= **$783 million**

Travel Wizard

IMPACT ON PROFITABILITY

After the candidate estimates the revenue for next year, ask the candidate to **brainstorm what are the various costs that SG Airlines would incur** .

The candidate should come up with at least 4 different costs. Possible answers include the list below:

Purchase price of aircrafts, purchase price of fuel and oil, maintenance costs, flight and cabin crew costs, other labor costs, financing costs, insurance costs, hangar rental / tie-down space, annual inspection fees, real estate for offices

After this, the candidate should make their best estimates for each of the costs mentioned and decide: **what could be the profit margin for a company like SG Airlines?** Any answer between 2.5% to 15% is acceptable as long as the explanation provided by the candidate is reasonable.

A good candidate will automatically look to estimate the profit for SG Airlines for next year based on the assumption made above. An excellent candidate will notice that the revenue declined by roughly 33% and with low margins, the profitability may be at a higher risk.

As a brainstorming exercise, ask the candidate to come up with **alternate methods for generating additional revenue** in the future. The candidate should come up with at least 4 different ideas. Possible answers include the list below:

Charge customers for additional services like food or baggage, introduce Wi-Fi in the air as an option, enter into a code-share with another airline to fill the unused capacity of the planes, introduce a diverse in-flight shopping catalog, reducing the price of tickets for first & business class passengers, lease hangar space to other airlines when not being used, enter into transportation markets, launch a complementary suitcase and handbags subsidiary

Travel Wizard

BRAINSTORMING QUESTION

Inform the candidate: After noticing that first class passengers led to 57% of the loss recognized by SG Airlines due to competitive pressure from Travel Wizard, the team decided to reduce the price of first class tickets from $3,000 to $2,500. **How can SG Airlines accurately estimate how much the churn would reduce?**

The candidate can be creative here, however the ideal answer would be by collecting data from competitors and past sales of SG Airlines so that they can run regression models on the price/demand ratio and predict the churn rate with high accuracy.

Lastly, ask the candidate if they would change their marketing strategy given there is a clear threat to the industry and how?

This is an open-ended question and the candidate can feel free to use 4 P's or 5 C's framework if they wish.

The candidate may focus on marketing via different channels like company website, travel agencies, billboards, TV advertisements, banners on social media etc. The candidate may choose to offer bundling of options or discounting of tickets during certain periods. Irrespective of what they choose, it should clearly address why their preferred method of marketing will reduce churn to Travel Wizard.

Airlines
Competitive Threat
Profitability

Easy
Medium
Hard

Travel Wizard

RECOMMENDATION QUESTION

You meet the CEO of SG Airlines at the gate of the building. During the 1 minute walk to her office, she asks you to briefly introduce your findings about the competitive threat from Travel Wizard.

SAMPLE RECOMMENDATION

The candidate should summarize that:

- SG Airlines should keep the flights from London to New York and vice-versa running, even though there is a significant loss in revenue
- The routes are still profitable and can generate a revenue of $783 million per year, despite losing customers to Travel Wizard
- Majority of the loss in revenue is due to churn of first class passengers, however SG Airlines can consider other options to generate revenue

And some of the following risks should be considered:

- There may be an additional loss of passengers due to the novelty factor of the teleportation device
- Since this is a new industry altogether, there may be an influx of other players in the market in the near future, further reducing revenues

Possible next steps:

- SG Airlines can potentially reduce prices for all tickets to keep airlines attractive as an industry
- Evaluate if SG Airlines possesses the capability to produce and launch their own teleportation device

Eurotech

By Íñigo Arteche



TMT
M&A
Profitability

Easy
Medium
Hard

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech

CASE FLOW – FOR INTERVIEWER

Total time: 36-45 min







Prompt & exhibit I

Time: 5-7 mins

Main Objectives:

- Understand the industry & company size
- Address the problem to be solved: synergy calculation

Structure

Time: 6-10 min

Main Objectives:

- Elaborate a structure to address the problem
- Use main levers (cost and revenue) as part of the structure

Exhibit II & quant

Time: 12-15 min

Main Objectives:

- Calculate the main synergies
- Notice one-off costs
- Understand the difference between target and potential synergy

Risk brainstorming

Time: 8 mins

Main Objectives:

- Elaborate a list of risks associated with the NewCo synergy implementation and future operations

Recommendation

Time: 5 mins

Main Objectives:

- Outline target synergy
- Comment on main synergies
- Elaborate on risks and mitigation actions

(*) Refers to the manufacturing and installation of reception devices (antennas), transmission infrastructure (Wiring), and end-terminals (set-top-boxes, smart TVs, phones…)

Eurotech

TMT
M&A
Profitability

Easy
Medium
Hard

PROMPT

Two technologic firms within the audio-visual tech industry have decided to join forces. Their market [*]: manufacturing of Hardware components for audio-visual transmission has been declining at a 14% rate and this has affected their profitability jeopardizing their future operations.

Both of their CEOs have agreed on contracting a consulting firm to help them navigate the process.

Your job is to size the potential synergies that the operation may yield for the NewCo in the future

CLARIFYING POINTS (if asked)

- If the interviewee asks to know more about the audio-visual industry, show exhibit I
- The companies work on a per project basis, mainly for hospitality segment (75% of their revenue)
- Their operations are limited to the manufacturing & assembly of the Hardware components, the installation is done by a third party
- The companies are not based in the same country, one company is in France and the other in Poland
- They are both of similar size and have similar operations
- The French company owns two plants (one in Southern France and the other next to Paris) while the Polish part owns one bigger plant near Warsaw
- The objective is to improve their common profitability by a 10% of the aggregated revenues

CASE GUIDANCE

The objective of this case is to test the candidate's ability to navigate through an M&A operation between technological firms. It is designed to test brainstorming and focuses on a not very known industry to test the candidate's capacity of applying a structured approach to divide the problem into more manageable parts.

The case is not to test the specific knowledge on the AV infrastructure market, but to test the proficiency on how to confront a merger operation, more concretely, how to approach the synergy calculation.

(*) Refers to the manufacturing and installation of reception devices (antennas), transmission infrastructure (Wiring), and end-terminals (set-top-boxes, smart TVs, phones…)

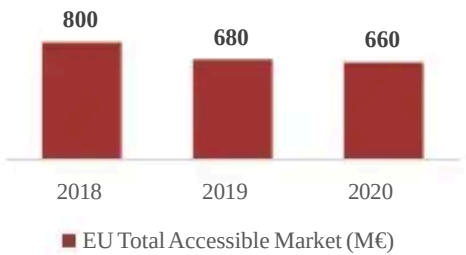
TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech – Exhibit 1

INDUSTRY INSIGHTS

- **80% of TAM**[1] depends on Hospitality purchases
- Hotels have recently been moving to **Software services,** reducing dependence on **Hardware providers**
- Market size for HW companies has been declining for the last 3Y (see graph)



PRODUCT CATEGORIES HW TRANSMISSION

RECEPTION

Antennas, Encoders, & Converters*

TRANSMISSION

Wiring for different signals and network devices

TERMINALS

End user devices such as Smart TVs, Tablets, computers…

MAIN COMPETITORS AND 3Y CAGR

		CLIENT			CLIENT
Country					
LY Revenue M€	150	**85**	83	75	**70**
3Y CAGR	-20%	**-10%**	-5%**	-12.5%	**-15%**

Notes: (*) An encoder/converter is a device that converts different signals (Satellite, Terrestrial, IP…) into playable content (video and/or audio). (**) The Swedish competitor has recently acquired a SW company which is offsetting its decline in sales. | Glossary: (1) Total Accessible Market

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech – Exhibit 1

GUIDANCE

This exhibit is for the candidate to understand better the industry, it is important to try to link it to the reason behind the M&A operation

The candidate should **notice that** :

1. The market is experiencing an overall decline ((660-800)/800 = -140/800 = -7/40 = -17.5 **%**). If the candidate makes the calculation, it would be considered positive
2. This decline is caused by the fact that clients are switching traditional Hardware for Software services. If the candidate notices that the Swedish sales have declined less due to the acquisition of a Software firm it would be considered a plus
3. The operation will create the biggest company in the market (75+80 = 155M€)
4. The Polish company initially presents a better financial outlook (lesser decline than most competitors and bigger revenues)
5. The market relies heavily on one type of client: hospitality. If the candidate links the fact that consumers now bring the content linked to their devices (i.e. Netflix, Hulu…) to the increased importance of software services it would be considered a good understanding of the industry behaviour
6. Finally, the candidate should try to guess that since the industry is experiencing such a decrease, the operation might help capture synergies that help both companies survive in such a demanding market

If the candidate does not suggest the reason for the operation, the interviewer might ask him/her to brainstorm a set of possible reasons. **When synergies come up, the interviewer might suggest moving on to the structure.**

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech

STRUCTURE QUESTION

The interviewer will ask the candidate to create and present a structure to address the potential synergies upcoming from the M&A operation

STRUCTURE GUIDANCE

The candidate needs to identify the information that will help him solve the problem:

- He should indicate that there are two main sources of synergies: sales and costs
  - In terms of sales synergies, the candidate should indicate that there is potential due to access to new clients, countries, and products that were exclusive to each of the companies
  - In terms of cost synergies, the candidate should explain that there are potential synergies and elaborate on the different lines where the companies can save costs from merging (i.e.. Purchase of raw materials, direct labour reductions and/or relocations, R&D costs, and selling/administrative)
  - Last, the candidate could create a bucket to assess the feasibility/risks associated with the synergy calculation

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech – Proposed structure

SALES SYNERGIES

- Products
- Geographies
- Products

- New potential cross-selling opportunities coming from gaining access to:
  - New products
  - New countries
  - New clients

COST SYNERGIES

- Raw Materials
- Direct Labour
- R&D
- Structure Costs

- Potential Savings in terms of purchasing and supplier optimization
- Cost reduction derived from optimization of production process
- Savings associated to duplicated R&D functions
- Potential savings in centralizing Selling & Administrative costs

OTHER CONSIDERATIONS

- Risks
- Feasibility

- Risk analysis for determining potential threat to synergy consecution i.e.. cannibalization, high costs associated with terminations, reputational risks, liquidity issues…
- Feasibility of the merger operation: action plan, funding & liquidity, stage of the industry (i.e. mature close to obsoletion…)

Notes: (*) An encoder/converter is a device that converts different signals (Satellite, Terrestrial, IP…) into playable conte nt (video and/or audio). (**) The Swedish competitor has recently acquired a SW company which is offsetting its decline in sales. | Glossary: (1) Total Accessible Market

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech – Exhibit 2

REVENUES FY20

All Numbers in M€	French Company	Polish Company
Revenues	**70**	**85**
Variable Costs	**10**	**11.5**
Raw Materials (components, wirings, hardware pieces…)	9	9.5
Transportation	1	1.5
Energy	1	0.5
Fixed Costs	**55**	**50.5**
Production (Salaries of employees)	42	33.5
Research & Development	10	15
Sales and Administration	3	2
Operational Profit	5	23

ADDITIONAL INFO

- **Variable Costs** have remained stable over the last 10 years and are not expected to change since relation with the provider is good

- **Fixed costs** have been increasing over the last 5 years at a slow steady pace (no hiring nor firing has occurred for the last 6 years)

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech – Exhibit 2

GUIDANCE

If the candidate asks :

1. There is enough capacity in Poland to move production from France, with the associated increase in Fix Cost (salaries)
2. Termination costs in France (associated with production employees in France) have been estimated to be 10M€ (one -off)
3. The sale of the French Plant would lead to a net profit of 2M€
4. The candidate can consider a target of 70% consecution of the potential synergy. The candidate should indicate that 100% of the synergy is not attainable.

The candidate should **notice that** :

1. Raw Materials (small electronic components that both companies assemble to create their products) are being managed more efficiently in Poland, it could be an effect of volume but with such a difference it is more likely that they are working with different providers
2. French salaries are consuming a big portion of profitability. The candidate should be able to associate this to the fact that wages in France are much higher than in Poland, and ask if it is possible to shift production from France to Poland
3. He should also notice that Poland is spending more on R&D and state that for a technologic company this is a relevant issue, if he links it with the lesser decline seen in Exhibit I it would be considered a plus

In conclusion, candidate should state that the Polish have a leaner operation and that this gives them the possibility to invest more in R&D and retain sales with more advanced products.

Gathering all this information the candidate should propose to move on with the structure and start the synergies analysis.

TMT
M&A
Profitability

Easy
Medium
Hard

Eurotech

QUANTITATIVE ANALYSIS

For the quantitative analysis, the interviewer will ask the candidate to calculate the synergies between the two players using the information contained in the first exhibit.

(It is important that the candidate makes the calculation with at least 2 decimals, specially for the ratios)

SOLUTION

- Sales synergies (0M€): here the candidate should brainstorm some ideas on where he thinks the synergies are (i.e. cross-selling of non-common products, access to new countries…). He should state that this type of synergy is more uncertain and speak about the possibility of cannibalization. The interviewer should indicate the candidate to consider zero in terms of sales synergies.
- Raw Materials: here the candidate should use the purchasing ratio from Poland to quantify the potential synergy behind Raw Materials. **9 – (70 x 9.5/85) = 1.17M€**
- Production: in terms of salaries, the candidate should try to explore the possibility of moving production to Poland, as it is more cost-efficient this would yield: **42 – (70 x 33.5 / 85) = 42 - 27.588 = 14.41 M€**
- Research & Development: here the candidate should notice that this cost is duplicated, with one R&D department they would be able to serve the whole organization, and since the Polish one seems to be more effective (in terms of sales) he could propose to move all R&D to Poland maintaining the Polish budget. **10M€, all French R&D cost**
- Sales & Administration: same reasoning as before yet more unclear since Spain would need to retain some Financial controllers/administrative staff. **2-3M€**

Target Recurrent Saving of:

(1.17 + 14.41 + 10 + 2.5) x 0.7 = 28.09 x 0.7 = **19.66 M€**

One-off Profits/Losses:

+2 – 10 = -8 M€

Eurotech

TMT
M&A
Profitability

Easy
Medium
Hard

BRAINSTORMING QUESTION

Last, the interviewer must ask the candidate to elaborate on the last point of the plan, which is risks/feasibility. The candidate must elaborate a list of risks that could harm the synergies and the profitability of the NewCo in the future. (Broader scope)

SAMPLE ANSWERS

The candidate should explore the different risks associated with the future of the NewCo. If he proposes a structure that is linked to profitability, it would be considered a plus, i.e.:

REVENUES

- Substitute products
- Competitive environment (i.e., price-war)
- Failure in the R&D process
- Harming client relations
- …

VARIABLE COSTS

- Increase in the price of components
- Decline in bargaining power against suppliers (i.e., bankruptcy of current providers)
- Increase in the price of utilities…

FIX COSTS

- Moving production from France to Poland might not be possible (gov. pressure, legal procedures…)
- Employee dismissal may harm reputation in the French market
- Loss of capacity in the R&D function…

Eurotech

RECOMMENDATION QUESTION

After this analysis, the client has called us, they want us to have a call with them and propose them our main conclusions over the synergy analysis. You have 2 minutes to elaborate an adequate response that captures what we have been discussing during the project.

SAMPLE RECOMMENDATION

- The response should start by first answering the question of how much potential does the operation has in terms of synergies (~20M€).
- The candidate should explain that this number has been calculated using a safety coefficient that assumes that the NewCo will be able to capture a 70% of the potential synergy
- Then he should move to explain where the synergies are mainly being captured: Production and R&D
- He should talk as well about one-off profit/losses: in Year 0 (2021) the company would experience a - 8M€ loss due mainly to the termination costs associated with the employees in the French plant
- Present a brief risk analysis, if he speaks about the French employment laws and the fact that moving production to Poland might be difficult/costly it would also be considered a plus. Presenting risk mitigation initiatives would also be considered positive.
- Last, he should try to establish a small action plan or suggest a follow up to the call

Crunch Yo’ Burger

By Pieter Swart



Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

Food service
Profitability
Operations

Easy
Medium
Hard

UPFRONT NOTE FOR INTERVIEWER

- This case is designed to be as long or short as you want
- There are two optional estimations to test candidate's market sizing ability
  - # Subway restaurants in the US
  - # of sit-in customers per Subway per day
- If you are short on time, you can simply give the candidates the values of these inputs
- If the candidate would like to practice estimations, they can estimate these inputs

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

INTRO PROMPT

- You are the CEO of a large multinational fast food chain
- In recent years, you have noticed that your profitability in the US has been lagging behind competitors
- Your Board of Directors would like to know:
  - Why profitability is below that of competitors
  - How you plan to get profitability back in line

CLARIFYING POINTS (if asked)

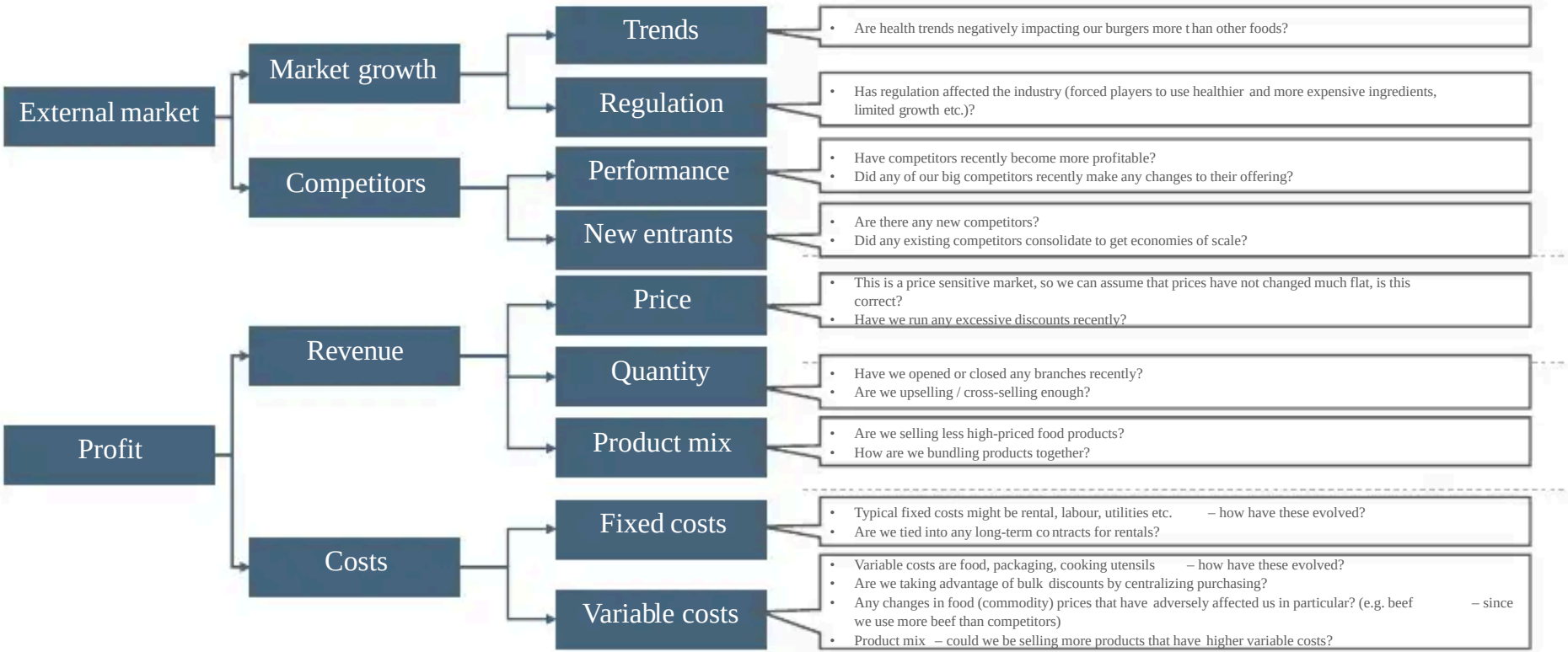
- Your company sells fast food that is cooked onsite (similar price point to McDonald's/Subway)
- Crunch Yo' Burger operates all its own stores (i.e. no franchises)
- There are four major players in the market, differentiated only by the type of food they offer (prices are the same)
  - Crunch Yo' Burger makes hamburgers
  - TacoCo sells tacos and other Mexican food
  - NoodleCo is focused on different varieties of noodles
  - PizzaCo sells pizzas
- We are concerned only with the US operations of Crunch Yo' Burger and its competitors
- Our customers can be either takeout or eat-in customers
- Note for interviewer: If asked for detailed figures on profit or revenue, tell the candidate you will show an exhibit after you have seen their structure

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

EXAMPLE CANDIDATE RESPONSE: SAMPLE STRUCTURE



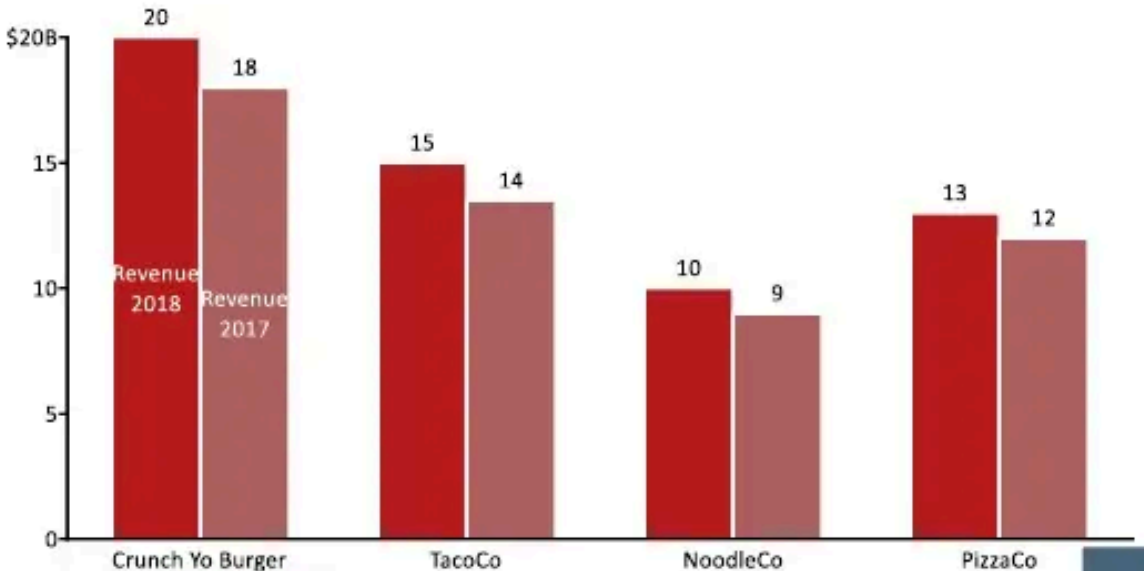
Once the candidate has given an overview of their structure, hand them Exhibit 1 (revenues and profits) and let them use this to decide where they should focus

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger – Exhibit 1

REVENUE AND PROFITS (ONLY FOR US)



Net profit (2018)	$0.20B	$0.23B	$0.15B	$0.23B
Food variable costs as % of sales (2018)	25%	25%	25%	25%
Non-food variable costs as % of sales (2018)	11%	10%	10%	10%

Note: Food variable costs relate to raw ingredients that are actually eaten by customers, non-food variable costs are all other variable costs

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger – Exhibit 1

EXAMPLE CANDIDATE RESPONSE

- This chart shows 2017 and 2018 revenues of the four main players, including our own company (Crunch Yo' Burger), as well as 2018 net profits
- We can see that Crunch Yo' Burger has the highest revenue, thus we are the market leader in fast food in the US
- Revenue growth rates for all competitors have been ~10% since 2017; hypothesis is that this is not a revenue issue
- If we divide net profit by revenues to be able to compare margins, Crunch Yo' Burger has the lowest net profit margin out of its peer group (~1% vs competitors in range of 1.5-2%); this extra 0.5% represents ~$100M
- This issue is caused by non- food variable costs (11% of sales for Crunch Yo' Burger vs 10% of sales for our peers), and we should investigate these costs further
- Note for interviewer: The presentation of the chart (showing net profit in absolute terms and variable cost as % of sales in relative terms is intentional in order to ensure that the candidate can turn these into comparable figures

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

FOLLOW UP QUESTION AFTER EXHIBIT

- We have concluded that Crunch Yo' Burger's cost issues lie in its non -food related variable costs
- What are some creative ways in which Crunch Yo' Burger could decrease these costs?

EXAMPLE CANDIDATE RESPONSE

- Some of the major non-food costs that we would have are:
  - Condiments (ketchup packets or ketchup dispenser)
  - Packaging (burger wrappers, soda cups)
  - Other consumables (napkins toilet paper, plastic cutlery, hand sanitizer)
- Some ways to reduce these could be:
  - Limit ketchup to 1 packet per order, and charge extra for extra packets
  - Use cheaper packaging (although this might pose an environmental and customer experience risk)
  - Limit the number of napkins per customer by handing them out at the teller (this might cause a delay in getting orders out) or by setting up a napkin dispensing machine
- Note for interviewer: Try steer the candidate towards napkins, in order to set up the next part of the case; if the candidate does not arrive at this, mention it as a high potential solution

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

CALCULATION QUESTION

- Crunch Yo' Burger is considering purchasing a machine that dispenses napkins one by one (Napkins are currently placed a large stack, customers take a few at a time before they sit down to eat)
- 1 machine will be needed per store, and needs to be replaced every 2 years; cost is $1000 per machine
- How much money can Crunch Yo' Burger save per year by implementing this machine?
  - What are the inputs you would need in the calculation and how would you structure it?
  - How much money is saved?
  - This solution will only apply to eat-in customers
- Note for interviewer: You should try to assess the candidate on two elements here:
  - How well they structure their calculation – do they identify all the elements in a logical way?
  - How well they execute the calculation

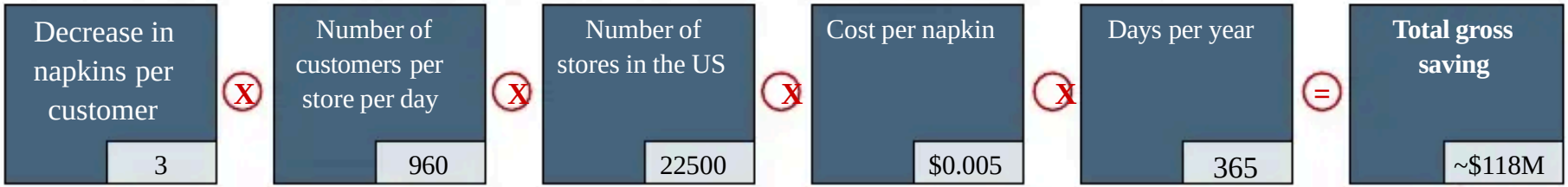
Food service
Profitability
Operations

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Crunch Yo' Burger

Note for interviewer: remember this case has 2 optional estimations! If you want the candidate to estimate, use 'long version' prompts

CALCULATION SOLUTION



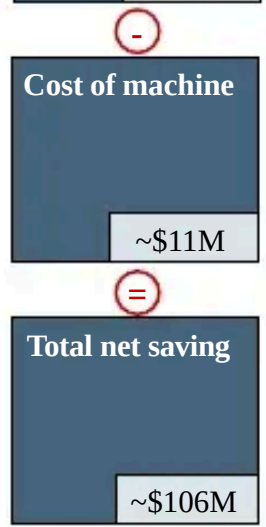
- Before the machine, customers took 5 napkins each
- If machine is implemented, it will reduce to 2 per customer

- **Short version of the case:** Give figure of 960 sit-in customers per store per day
- **Long version of the case:** Candidate should estimate this (see Optional Estimation 1)

- **Short version of the case:** Give figure of 22500 stores in US
- **Long version of the case:** Candidate should estimate this (see Optional Estimation 2)

- Napkins are purchased in boxes of 6000 napkins. A box costs $28
- Note: Allow candidate to round to $0.005 (half a cent) if needed

- Candidate can assume 360 to make calculations easier
- Important that the candidate notes takes note that fast food restaurants tend to be open most days of the year



Crunch Yo' Burger

Food service
Profitability
Operations

Easy
Medium
Hard

OPTIONAL ESTIMATIONS

EXAMPLE RESPONSE – ESTIMATION #1– # OF SIT-IN CUSTOMERS IN TYPICAL SUBWAY RESTAURANT PER DAY

- Assume a typical Subway or similar takeout restaurant has ~30 tables, with ~4 chairs per table; capacity of 120 sit-in customers
- Assume it is typically open from 6am to 10pm to sit-in customers (16 hours a day)
- 50% of the time is peak (8/16 hours), 50% of the time is off-peak (8/16 hours), (example breakdown in table below)
- During peak hours, the restaurant is 80% full
- During non-peak hours, the restaurant is 20% full
- Average meal duration is 1 hour (i.e. in a 3 hour time period, a table is rotated 3 times)

Timeslot	Peak/ off-peak	Capacity utilisation	Calculation	# customers
06:00-09:00	Peak	80%	120*3hrs*80%	288
09:00-12:00	Off-peak	20%	120*3hrs*20%	72
12:00-14:00	Peak	80%	120*2hrs*80%	192
14:00-18:00	Off-peak	20%	120*4hrs*20%	96
18:00-21:00	Peak	80%	120*3hrs*80%	288
21:00-22:00	Off-peak	20%	120*1hrs*20%	24
			Total	**960**

EXAMPLE RESPONSE – ESTIMATION #2– # OF SUBWAY RESTAURANTS IN THE US

- We have 50 states in the US, let's assume each state is split into rural and urban
  - Urban areas mostly comprise two large cities
  - Rural areas are small towns
- There are 150 Subways stores per city, potential way to estimate this:
  - Each large city is roughly 10 km long by 10km wide
  - Each km has roughly 12 blocks
  - Thus 120 blocks long by 120 blocks wide = 15000 blocks per city
  - Let's assume that as you walk, you are likely to encounter a Subway store every 10 blocks, thus 150 Subways per city
- Let's assume the cities contain 2/3 of all Subway restaurants, and the towns the remaining 1/3, Thus 2*150 = 300 Subway restaurants in cities, and 150 in towns = 450 Subway restaurants per state
- 450*50 states = 22,500 Subway restaurants in the US
- Note for interviewer: There are many potential ways in which the candidate could do this estimation (land area or Subway restaurant per person)

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

EXAMPLE CANDIDATE RESPONSE: INTERPRETATION OF SAVINGS VALUE

- We have calculated that we will save $106M per year
- This $106M represents an additional 0.5% of net profit margin
- With this additional saving, our profit margin will increase from 1% to 1.5%, putting us within the band of our competitors (although still at the lower end)
- We should consider other cost-saving initiatives to continue to increase profitability

PROMPT: BRAINSTORM

What are some other ways we could save on variable costs?

EXAMPLE CANDIDATE RESPONSE

- Raw materials bulk discounts
- Extend useful life of consumable utensils
- Run similar initiatives with ketchup, straws etc.
- Decrease cost of napkins (cheaper napkins)
- Note for interviewer: There are many potential options here, extra points for creativity

Food service
Profitability
Operations

Easy
Medium
Hard

Crunch Yo' Burger

PROMPT FOR FINAL RECOMMENDATION

- You have a 45-second slot in the Board meeting tomorrow to update the Board on your progress. What will you say?

EXAMPLE CANDIDATE RESPONSE: RECOMMENDATION

- (Candidate should assume an air of authority and confidence when addressing board)
- Good day and welcome
- We have run a diagnosis and can conclude that our lower profitability is caused by high non-food variable costs, specifically in napkins – customers are currently using excessive napkins when they enter our stores
- We have found a way of bringing our net profit margin closer in line with our competitors, increasing it from 1% to 1.5% by implementing a new napkin dispensing machine in all of our stores
- This machine will reduce napkins taken per customer by 3 napkins (60%), and on a national scale, save Crunch Yo' Burger ~$100M per year
- There are some implementation risks related to customer experience and ease-of-use of this new machine
- In order to mitigate these risks we will pilot the machine in 100 stores nation wide and record feedback and improvements
- Furthermore, we are investigating similar cost-saving initiatives in our ketchup and straw dispensing, in order to surpass the profitability of competitors

Transantiago

By **Michael Stefanic**



Transportation
Profitability
Public Sector

Easy
Medium
Hard

Transportation
Profitability
Public Sector

Easy
Medium
Hard

Transantiago

PROMPT

Transantiago is the public transportation system of Santiago de Chile. It is managed by the Ministry of Transportation and has more than 5 million users, integrating all the city's urban buses and subway.
Transantiago' s main source of revenue is the one generated by the tickets sold. They have two types of tickets. One normal ticket, that has a price of 2 dollars per trip, and one discounted tickets, that has a price of 1 dollar.
With this revenue, plus a fixed subsidy of 900 Million USD, Transantiago must cover all their operating costs of the year.
Suppose it is April 2021. The Ministry of Transportation has called you because, After Covid-19, Transantiago has been experiencing a substantial decrease in the demand and is worried if they to cover all their operating costs. **That's why they want you to investigate all the possible impacts of Covid-19 and see how they will be able to cover all their operating costs this year.**

CLARIFYING POINTS (if asked)

- The main goal is to seeif they will be able to cover all their operating costs this year
- The only actual source of revenue is the transportation tickets sold
- Each ticket can be used in buses and subway or mixing both
- The only price discriminationis if it is a student or not

CASE GUIDANCE

This is an interviewee-led case, where the candidate is expected to drive the case and suggest the next course of action.

This case strongly focuses on profitability and requires the interviewee to think about the cost and revenue and analyse the total impact generated considering both. Also, the candidate must consider the risk behind the forecast and the consequences if some of the forecasted numbers arenot reached.

From the quantitative aspect, the interviewee will have to connect numbers given in different stages of the case.

Since the case is talking about a service that has a big social impact, the interviewee is expected to be aware of the consequences of each of his decisions and try to pick the solution the impacts the less.

Transportation
Profitability
Public Sector

Easy
Medium
Hard

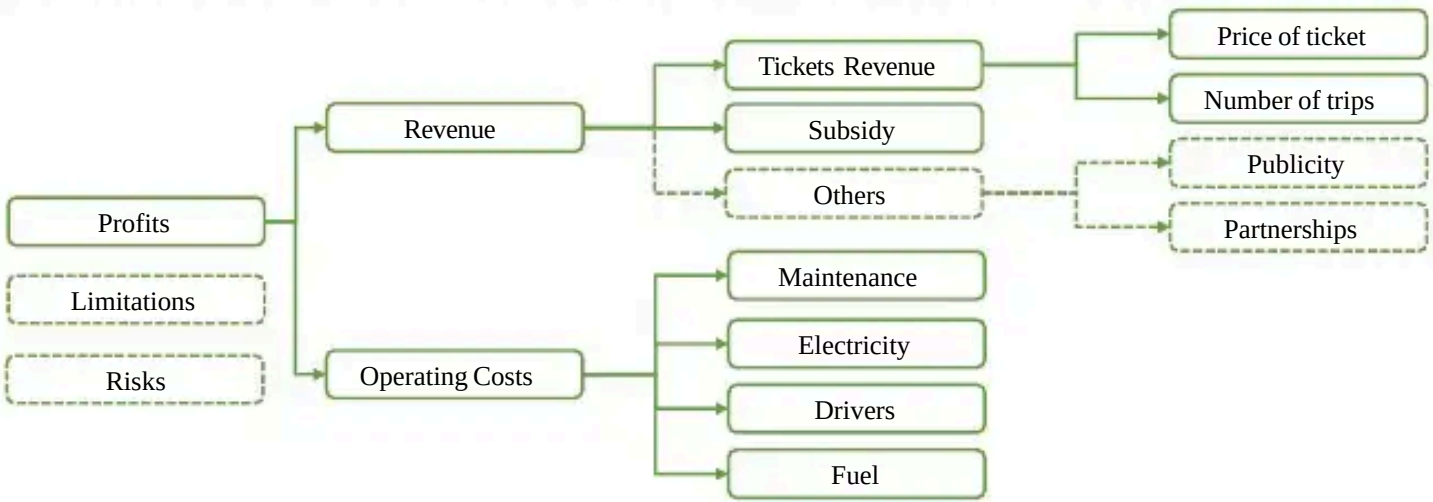
Transantiago

STRUCTURE GUIDANCE

The structure for this case should be mainly about profit. The more related to transportation, the better. A good candidate should also consider all the risks and limitations involved in this process since we are talking about a case in the public sector under a lot of uncertainty. After the candidate presented the structure, handle Exhibit 1 or 2 depending on the candidate's request.

Before handling Exhibit 2 , ask the candidate to do a **brainstorming of the main operating costs and possible covid-19 impact** on them.

SAMPLE STRUCTURE



Transantiago – Exhibit 1

DEMAND FORECAST

	Normal Ticket	Students
Total Trips projected 2021	500 million	100 million
Expected price	2 USD	1 USD*
Scenarios Covid Impact		
Optimist (30%)	-10%	-30%
Neutral (40%)	-20%	-60%
Pessimist (30%)	-30%	-100%

**Note: Prices for Students can not be modified during 2021*

Transportation
Profitability
Public Sector

Easy
Medium
Hard

Transantiago

DEMAND FORECAST ANALYSIS

From Exhibit 1 the candidate should understand the differences between each passenger and each one of the scenarios. A good candidate should be aware of the consequences of only considering an average scenario since there is a significant risk if the pessimistic scenario happens.
Also, it is expected that the candidate takes some shortcut to calculate the revenue of each type of ticket, special for the "Normal Ticket" .

NEW EXPECTED REVENUE

Revenue Normal Tickets = Normal Price * Expected Demand = 2 USD * 400 MM = **800 MM USD**
Expected Demand = Projected Demand * (1+Expected Impact Covid) = 500 MM * (1-20%) = 400 MM
Expected Impact Covid = 0,3*-10% + 0,4*-20% + 0,3*-30% = -20%

Revenue Student Tickets = Students Price * Expected Demand = 1 USD * 37 MM= **37MM USD**
Expected Demand = Projected Demand * (1+Expected Impact Covid) = 100 MM * (1-63%) = 37 MM
Expected Impact Covid = 0,3*-30% + 0,4*-60% + 0,3*-100% = -63%

TOTAL REVENUE = Revenue Normal Tickets + Revenue Student Tickets = 837 MM USD

Transantiago – Exhibit 2

INITIAL COSTS PROJECTION

Total Costs*		MM USD 2,000
Buses		**1,500**
Maintenance		300
Fuel		500
Total Kilometres	MM km	1000
Consumption	Lt/km	0,5
Price of oil	USD/lt	1
Bus drivers		500
Other costs		200
Subway		**500**
Maintenance		100
Electricity		100
Total Kilometres	MM km	200
Consumption	Kwh/km	1
Price of electricity	USD/Kwh	0,5
Subway drivers		200
Other costs		100

**Note: This cost where projected before Covid-19 effects*

Covid-19 Effects

- Average **price of oil** is expected to decrease 20% versus the initial projected price
- Average **price of electricity** is expected to decrease 10% versus the initial projected price
- Night curfews we will have two effects (**only for buses**):
  - Bus **driver's cost** will decrease 10% because fewer part-time drivers will be required
  - The total amount of **kilometres of buses** will be reduced by 10%

Transportation
Profitability
Public Sector

Easy
Medium
Hard

Transantiago

COSTS ANALYSIS

Brainstorm - Before handling Exhibit 2, the candidate is asked to do a brainstorming of the main operating costs and possible covid-19 impact on them. For the brainstorm, the candidate is expected to mention most of the costs shown in the exhibit and some of the covideffects.

From Exhibit 2 the candidate is challenged to quickly understand all the information and see the relationship between each of the numbers with the covid-19 effect mentioned. Also, the candidate must understand the different types of units shown on the table.

NEW EXPECTED COST

New Fuel Cost = New TotalKilometres * Consumption * New Oil Price = 900 MM * 0.5 * 0.8 = **360 MM USD**

NewTotal Kilometres = Original Total Kilometres * (1 – Night Reduction)= 1000 MM* (1-10%) = 900 MM

New Oil Price = OriginalOil Price *(1 - Oil Price Change) = 1 * (1-20%) = 0.8

New Electricity Cost = Total Kilometres * Consumption * New Electricity Price = 200 MM * 1 * 0.45 = **90MM USD**

New Electricity Price = Original Electricity Price *(1 - Electricity Price Change) = 0.5 * (1-10%) = 0.45

New BusDrivers Cost = Original Bus Drivers Cost * (1 – Night Reduction)= 500 MM * (1-10%) = **450 MM USD**

TOTAL COSTS = Original Total CostChangein Fuel Cost – Change in Electricity Cost – Change in Bus Drivers Cost= 2000 MM – 140 MM – 10MM – 50 MM = 1800 MM USD

Change in Fuel Cost = Original Fuel Cost – New FuelCost= 500 MM – 360 MM = 140 MMUSD

Changein Electricity Cost = Original Electricity Cost – New Electricity Cost = 100 MM – 90 MM= 10 MM USD

Changein Bus Drivers Cost = Original Bus Drivers Cost – NewBus Drivers Cost = 500 MM – 450MM = 50MM USD

Transportation
Profitability
Public Sector

Easy
Medium
Hard

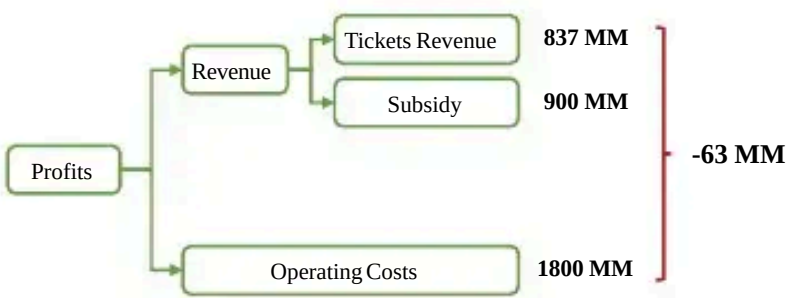
Transantiago

PROFIT ANALYSIS

After analysing all the revenue and costs, the candidate should be able to link both and **conclude that there will be a deficit of -63 MM USD** . The candidate is expected to start thinking about options to cover the expected deficit for this year. A good candidate will also mention that all these numbers are based on an average scenario and that the final difference could be covered or even increase depending on many of the variables.

Ask the candidate to do a brainstorm of possible solutions and, if thereis time, ask him to quantifyone of them.

A good candidate would deliver his **brainstorm in a structured way** .



POSSIBLE SOLUTIONS

Revenue solutions

- **Increase theprice of the "Normal Ticket"** – the price should be increased by 13 cents (6%)
- Increase safety measures to **generate more demand** – it would be required an increase of 31,5 MM "normal tickets"
- **Askfor more Subsidy** – An increase of 63 MM USD (7%)
- Create **other source of revenue**

Cost solutions

- **Decrease the kilometres to reduce costs** – it would be required a decrease of 160 MM kilometres of Bus (17%)

Other

- **Wait until July** to see which of the scenarios occur before taking actions that may not be necessary

Transportation
Profitability
Public Sector

Easy
Medium
Hard

Transantiago

RECOMMENDATION QUESTION

The Ministry of Transportation has entered the room and is asking you for your analysis and recommendation.

SAMPLE RECOMMENDATION

The recommendation should be given in a structured way. Starting with the concrete action, then the reason behind that action, and after that, mention the risks involved. A possible recommendation structure would be:

1) Action/conclusion : Mention that, after the analysis, we will have a gap of 63 million and bring up one of the possible solutions from the final brainstorm.
2) Reason : Give two or three reasons why he thinks that is a good solution for the problem.
3) Risks: Assess the possible negative impacts of the recommendation. A good candidate should also mention the risk behind all the numbers analysed, since they are all based on forecasts and could have high variability.
4) Recommendation : Give a future recommendation to improve the analysis or to increase the action's probabilities of success.

California Wildfires

By Alan Bleiberg



Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

California Wildfires

PROMPT

The state of California has experienced devastating wildfires in recent years, causing deaths and billions of dollars worth of damage. The disasters are only projected to intensify, and the government needs to act fast. The governor has hired you to propose an action plan for prevention and mitigation. **What factors would you analyse?**

STRUCTURE GUIDANCE

Given the open-ended nature and scale of the problem, there are a variety of approaches. However, the candidate's structure should cover the following key aspects of the problem. **Push the candidate to brainstorm and elaborate on ideas**, as the rest of the case is speculative.

Diagnosing Crisis

- Causes of Fire
- Geographic Spread
- Trends Over Time

- What are the causes of wildfires and where do they occur?
- Are certain causes more preventable than others?
- Are come types of wildfires more devastating than others?
- Understand any trends (time of year, certain geography, identifiable causes)?

Action Measures

- Prevention
- Response
- Time Horizon

- Understand what are current prevention methods and what are addressable gaps?
- What are the current response tactics? What new or existing tactics should be implemented?
- Action measures should be categorized by time-horizon: short-term quick fixes and long-term infrastructure changes
- What is the effectiveness of various strategies?

Feasibility

- Financial Cost
- Ability to Implement
- Legal and Regulatory

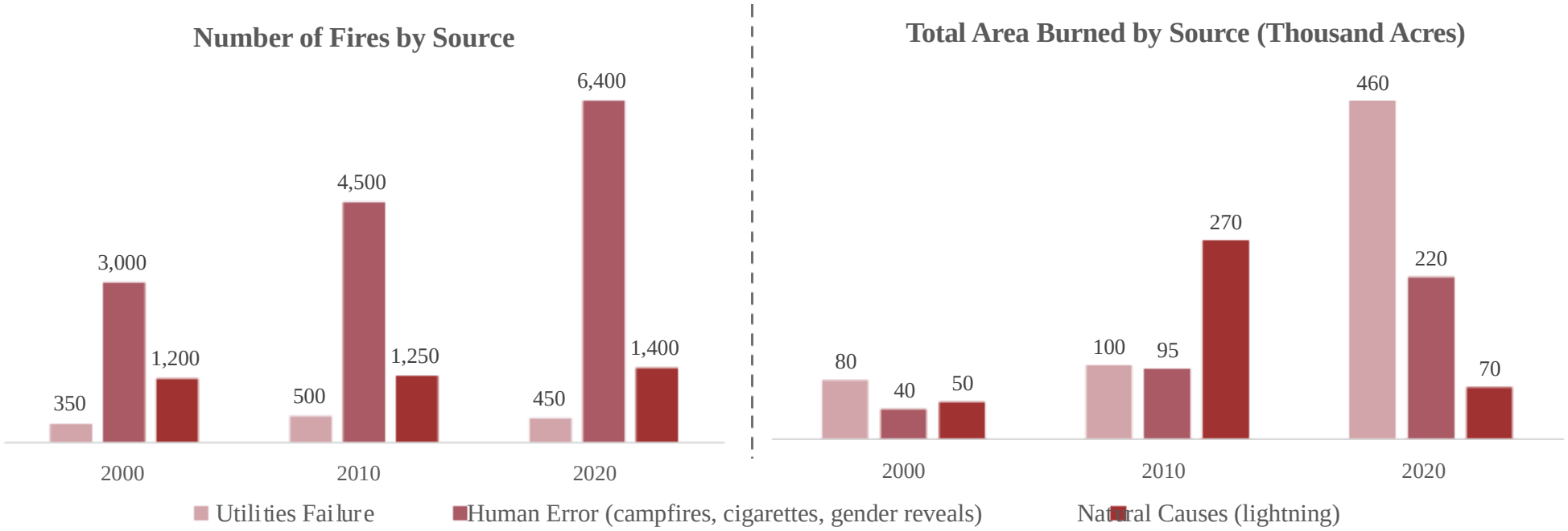
- What are the costs and ability to implement the proposed solutions?
- Are there legal barriers from stakeholders (lawmakers, utility companies, private sector)?
- Given scale, feasibility should be factor considered for each solution.

Public Sector
Climate Change
Strategic Response

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California Wildfires – Exhibit 1

CALIFORNIA HISTORICAL WILDFIRE REPORT



Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

California Wildfires – Exhibit 1

INSIGHT ANALYSIS

Hand over Exhibit 1 if the interviewee asks about **causes of wildfires or trends over time**

EXPECTED TAKEWAYS FROM EXHIBIT

Candidate should note the temporal data set and identify trends and outliers

- Candidate should explain that **fires due to human error have increased** over the last 20 years (2x), while other causes of fires are relatively constant
- Next, candidate should note two observations on the quantity of acres burned:

1. In-line with increased quantities of fires, **acres burned due to human error has steadily increased** over the last 20 years
   a) Candidate should note these are **likely frequent but smaller fires** , hence the relative magnitude is not extremely high
   b) Candidate should highlight this is an area to focus on prevention, as the cause is avoidable and various policies should be able to reverse the increase

2. The candidate should also note outlier years **, 2010 (natural causes) and 2021 (utilities)**
   a) Candidate should speculate these were likely **single "disaster" fires** that inflate the year's statistics
   b) Candidate should think these are likely impossible to prevent in the short-term due to the nature of the cause, but could suggest long-term prevention or mitigation measures

- Let the candidate think out loud and drive ideas, but next **present Exhibit 2**

Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

California Wildfires – Exhibit 2

2022 CALIFORNIA DEPARTMENT OF FORESTRY ANALYSIS

City	Cost to Build SafeWall [1] ($M)	Residential Structures	% of Structures At-Risk	Annual Wildfires	% that are catastrophic [2]	Avg Property Value ($M)
Oakland	6.4	400,000	2%	10	5%	1.00
Santa Barbara	7.0	100,000	4%	15	15%	2.50
Sacramento	5.8	250,000	3%	12	10%	0.50

Notes

1. SafeWall reduces the probability of a catastrophic fire by 50%
2. "Catastrophic" defined as destroying 10% of at -risk structures

Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

California Wildfires – Exhibit 2

QUANTITATIVE ANALYSIS

An environmental minister has suggested that a fireproof structure, SafeWall, could be built and would reduce the probability of a catastrophic wildfire. To start, they can only build around one city – which should they build and why?

SOLUTION

Candidate should assess each option and systematically compare the expected outcomes

Step 1: Calculate the **at-risk value** in each location:
Residential Structures * % At Risk * Avg Property Value

Step 2: Calculate the **likelihood of catastrophic fire** in each location
Annual Wildfires * % that are catastrophic

Step 3 Multiply the **probability of a catastrophic fire** by the **at-risk value** in each location by **10% destruction**. **Reduce expected damage by 50% to determine Value Saved**
At Risk Value * Expected Wildfires * 10% Destruction; * 50% reduction and Compare Values

Expected Insight:

- Candidate should note that **SafeWall in Santa Barbara** would save the most value **($1B)** compared to the other locations (~5x)
- Candidate **should take a stance** on basing the decision on financial considerations compared to population or at-risk structures. Candidate should note more data is needed on population.
- Should note that construction costs are not a factor given relatively similar in all locations

#1

City	Residential Structures	% of Structures At-Risk	Total At-Risk Structures	Avg Property Value ($M)	Total At-Risk Value ($B)
Oakland	400,000	2%	8,000	1.00	8.00
Santa Barbara	100,000	4%	4,000	2.50	10.00
Sacramento	250,000	3%	7,500	0.50	3.75

#2

City	Annual Wildfires	% that are catastrophic	Expected Catastrophic Fires
Oakland	10	5%	0.5
Santa Barbara	15	15%	2.25
Sacramento	12	10%	1.2

#3

City	Total At-Risk Value ($B)	Expected Catastrophic Fires	Damage of Catastrophic Fire	Expected Cost, No SafeWall ($M)	Impact of SafeWall	Expected Cost, SafeWall ($M)	Value Saved ($M)
Oakland	8.00	0.5	10%	400	50%	200	200
Santa Barbara	10.00	2.25	10%	2,250	50%	1,125	1,125
Sacramento	3.75	1.2	10%	450	50%	225	225

Public Sector
Climate Change
Strategic Response

Easy
Medium
Hard

California Wildfires

RECOMMENDATION QUESTION

Between your structured approach & data provided, what are your recommendations for the governor?

SAMPLE RECOMMENDATION

Allow for flexibility based on the candidate's structure. A **balance of creativity and practicality** should be embraced

- Based on data trends, action should be taken to **reduce the frequency of wildfires from human error**
- **Long-term solutions** should also be implemented to **mitigate "disaster" fires** that cause more damage
- Building SafeWall around **Santa Barbara** is expected to **save over $1B** in real estate value, 5x the value of other locations
- Overall **response risks are plentiful** , namely effectiveness, cost, and ability to implement
- **Action steps should be relevant** to the prior conclusions and **include other proposed solutions** , such as:

Short-Term Actions	Long-Term Changes (Infrastructure)
• Station more firefighters • Purchase more water-planes • Ban the use of campfires • More frequent forest management	• Update high-risk power lines • Clear break-lines in forests • Implement drone detection fleet

South bank

By Giancarlo Young



Financial Services
Product launch
Profitability

Easy
Medium
Hard

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

PROMPT

South Bank (SB) is the leading retail bank in Peru, an emerging South American country. SB has a dominant performance on high-income and a very good performance in medium-income customers but has not been capable of entering to low-income market. CMO has told us that his team has been evaluating the option to launch a new credit card with cashback benefits, which are perceived as much more valuable in this segment, and the product has already shown some results in competitors.

Currently, SB has a credit card with a loyalty program based on airline miles. This program is considered part of a strategic alliance with an important regional airline.

The CMO would like you to evaluate if it is convenient to invest in this project.

CLARIFYING POINTS (if asked)

- Peru has 35 M inhabitants. The local currency is PEN. Adults represent 70% of population.
- Country has 3 main economic segments, with clear different behaviours in credit card use.
- Consider Credit Card business as an independent unit of analysis.
- Revenues are only generated by merchant fee, a percentage of the amount paid with the card. During the last years has been stable at 2%.
- Each client can only have 1 credit card at the same time.
- To be approved, a project is required to have a payback period of 3 years. As a secondary metric, CMO prefers to generate the highest possible net cash flow in the first 3 years.

CASE GUIDANCE

The case requires the candidate to financially estimate (using payback period) the feasibility of launching this new product and assess the option of a new sales channel. After calculating both results, as a counterbalance, there are qualitative, country-related situations that have to be considered and open a chance to brainstorm, and even propose a different recommendation.

The candidate will need to ask for information to create a market sizing logic. Then, the interviewer can start showing exhibits. Is expected to work with order to avoid reprocessing and don't get confused with numbers.

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

STRUCTURE GUIDANCE

- Candidate should focus on main aspects that imply to release a new product: financial impact, market situation, risks involved, and capabilities that the company has.

SAMPLE STRUCTURE

FINANCIALS	I) Revenues: # customers, frequency of use, size of ticket, merchant fee value. II) Costs: variable -> sales commissions, plastic cards, loyalty program; fixed -> wages, system maintenance
MARKET	I) Competitors: BS market share, positioning, value proposition II) Clients: segments, purchase behaviours and perceptions III) Ecosystem: availability of POS, trends in cashless options
CAPABILITIES	I) Commercial: brand awareness, know how of regional needs and customs II) Financial: Budget for investment, need of additional CAPEX/OPEX III) Operational: scale and granularity of sales force, logistics for credit card supply
RISKS	I) Financial: small ROI II) Commercial: bad experience of user because of lack of knowledge regarding credit cards or not enough POS to pay, cannibalization vs current credit card

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

QUANTITATIVE ANALYSIS, PART 1

- Candidate should propose a market sizing as first action, explaining the reasoning before doing numbers. Interviewer should show EXHIBIT 1 once the candidate has identified many variables implied. Candidate should mention macro features (e.g. large market vs small ticket and small penetration)
- After having calculated revenue per segment, challenge the idea (so what?) of entering low income since is a very small market (3% of total, 0.3% of BS revenues).
- If the candidate only considers calculating values for low-income segment, is adequate. Still, he/she should calculate all segments in order to compare them and find some insights of the whole potential.

SOLUTION, PART 1

Total population	Adult population %	Population, by income	Credit Card penetration (# cards)	Market share (# cards)	Spending per year (PEN)	Merchant fee 2% (PEN)
35 M	70% → 24.5 M	high = 10% → 2.45 M	80% → 1.96 M	60% → 1.176 M	100 K → 117.6 B	**2.352 B**
		medium = 30% → 7.35 M	50% → 3.675 M	30% → 1.102 M	30 K → 33.075 B	**661.5 M**
		low = 60% → 14.5 M	10% → 1.47 M	5% → 0.0735 M	6 K → 441 M	**8.82 M**

Financial Services
Product launch
Profitability
Easy
Medium
Hard

South bank – Exhibit 1

CREDIT CARD MARKET MAIN INDICATORS

Segments	% of population	Credit card penetration	SB market share	Avg. spending per year
High-income	10%	80%	60%	100,000
Medium-income	30%	50%	30%	30,000
Low-income	60%	10%	5%	6,000

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

QUANTITATIVE ANALYSIS, PART 2

- Once the interviewee calculates the revenues, the interviewer has to indicate that we have receive additional information about 2 options of sales channels: traditional (branches) or online. Criteria for choosing an alternative remain the same as indicated during clarifying questions.
- Interviewer mentions main revenues and costs (see SOLUTION, PART 2).
- Once cash flows have been calculated, show (in EXHIBIT 2) that we don't have branches in the majority of low-income regions.

SOLUTION, PART 2

- Compare marginal impact on branches vs online sales:
  - Market share growth (# cards) -> branches: from 5% to 15%; online: from 5% to 8%. Average spending and merchant fee remains the same.
  - Variable costs (paid only at year 0) -> plastic card emission = PEN 5 // sales commission (per card sold) = PEN 50
  - Variable costs (paid every period) -> cashback = 1% of payments, per year
  - Fixed costs (paid every period) -> online channel maintenance = PEN 200 K per year
  - **Net cash flow after 3 years (PEN) -> Branches = 18.4 M vs. Online = 7.2 M. Payback time = 1 year for both options.**

Branches // # new cards = 147 K	0	1-3
Payments		882 M
Revenue		17.64 M
Costs (plastic & **sales**)	(8.085 M)	0
Cashback		(8.82 M)
Margin	(8.085 M)	8.82 M

Online sales // # new cards = 44.1 K	0	1-3
Payments		264.6 M
Revenue		5.29 M
Costs (plastic & **online**)	(0.735 M)	(0.200 M)
Cashback		(2.65 M)
Margin	(0.735 M)	2.65 M

Financial Services
Product launch
Profitability
Easy
Medium
Hard

South bank – Exhibit 2

PERU'S POLITICAL MAP



- Lima City concentrates around 10M inhabitants (disregard the segment), medium-income regions represent other 10M inhabitants, and 15M inhabitants live in low-income regions.
- Branch penetration is usually preceded by a developed POS ecosystem, implemented by a Credit Card global company.
- Technologies adopted by low-income segment: 65% has a smartphone, 65% has Internet access.

High penetration of SB branches

High income regions

Medium income regions

Low income regions

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank – Exhibit 2

TAKEAWAYS

- The candidate should recognize that we don't have any presence in the majority of low-income regions. Thus, it would imply an additional investment in building branches.
- A good candidate should also consider the cash flow differences between sales channels (PEN 18.4M – 7.2M = 11.2M) as additional CAPEX that could be used for building branches and still generating higher cash flows vs online.
- Since Lima City has the third part of Peru's population, is probable that there is a hidden low-income segment that we can prioritize. The same for other high-income, medium-income regions.
- Leverage on technologies could help to foster financial literacy or as payment methods.

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

BRAINSTORMING QUESTION

1. **What are the main potential problems/risks that we have in order to launch the new product?**
2. **What would you suggest to do to hedge these risks?**

SAMPLE ANSWERS

1. Candidate should bundle possible risks:
   - Commercial: acquiring the card through online sales could be daunting, clients don't understand how to use the card, 1% cashback could not be perceived as attractive, erosion of partnership with airline.
   - Financial: clients show high default levels, high-income clients turn to cashback credit card (cannibalization).
   - Operational: there are not enough POS nor branches in the majority of low-income regions, low density of population in low-income regions.

2. Bundling is, again, a good practice:
   - Commercial: partner with local authorities or leaders to give financial education and training, focus on capture competitors' clients using higher cashback or other discounts, revisit analysis and focus on high-density, higher-income regions.
   - Financial: evaluate if opening mini-branches (less CAPEX).
   - Operational: deliver credit cards by courier, negotiate with Credit Card provider/competitors/government to accelerate POS instalment, evaluate other technologies as Digital Credit Card (in smartphones).

Financial Services
Product launch
Profitability

Easy
Medium
Hard

South bank

RECOMMENDATION QUESTION

What is your recommendation to South Bank CMO?

SAMPLE RECOMMENDATION

- The candidate should recommend implementing the project. Payback period is **only 1 year regardless of sales channel** . Ideally, he/she should suggest implementing branches, because they generate higher net cash flows in the first 3 years.
- Consider that, if we have to invest **more than PEN 11.2 M** in opening new branches, is better to go online.
- As possible risks to consider: low adoption of product (due to access, lack of knowledge, or small POS network), potential cannibalization, and erosion on airline partnership.
- Finally, mention next steps: consider push POS penetration with Credit Card provider or even with competitors, work on financial education, etc.

A good candidate will:

- Recognize that there is an underlying, structural problem that has to be solved to increase probability of success. He/she explains that the project is a long-run bet, since these markets have to be developed.
- Consider other costs/losses as defaults or frauds, and suggest a sensitivity analysis (e.g. % of market captured, payback period required = 1 year, higher cashback %).
- Size how many low-income clients are in medium or high-income regions. For instance, Lima City probably has a relevant low-income population, and already counts with a high branch penetration.
- Ponder to explore medium-income segment, since the size, penetration and market share put SB in a better position.

Cricket Mania

By Participation Code - CB11



Cricket Mania

Sports
Investment Decision
Profitability

Easy
Medium
Hard

PROMPT

PCC is one of the cricket franchise in worlds largest cricket league, LPI. Despite having one of the strongest teams in league, PCC has continuously disappointed its fans and owners and has failed to live up to its true potential.

Mr. Gandhi, has recently replaced Mr. Modi as the new CEO of PCC. Mr. Gandhi has been handed the task of turning around the fortunes or PCC. Mr. Gandhi has been an ardent cricket fan and player of the sport all his life. He also has a track record of turning around corporates.

Mr. Gandhi has hired you to investigate and recommend on the action plan.

CLARIFYING POINTS (if asked)

- Success here would be defined based on improved profitability
- The team has been relatively stable with no abnormal changes
- The owners are willing to incur Capex to attract up to two star-performers in the auction
- PCC lacks brand recall, amongst the lowest in the league
- All franchisees in the league are profit making
- The overall cricket viewership and popularity has been on the rise (assume pre-covid time)

CASE GUIDANCE

In this case the candidate should not rely on any pre-knowledge of the game and think of the problem as a classical profitability issue.

The candidate should ask the right questions and aim to grow the existing revenue streams and add new revenue streams to improve profitability. The interviewer should guide the candidate towards focusing on improving revenues and not get stuck on reducing costs. Given, that a franchisee's brand has a high impact on revenues, the candidate should be conscious of making recommendations to improve the brand as well.

For Interviewer's understanding ONLY (to understand the business model):

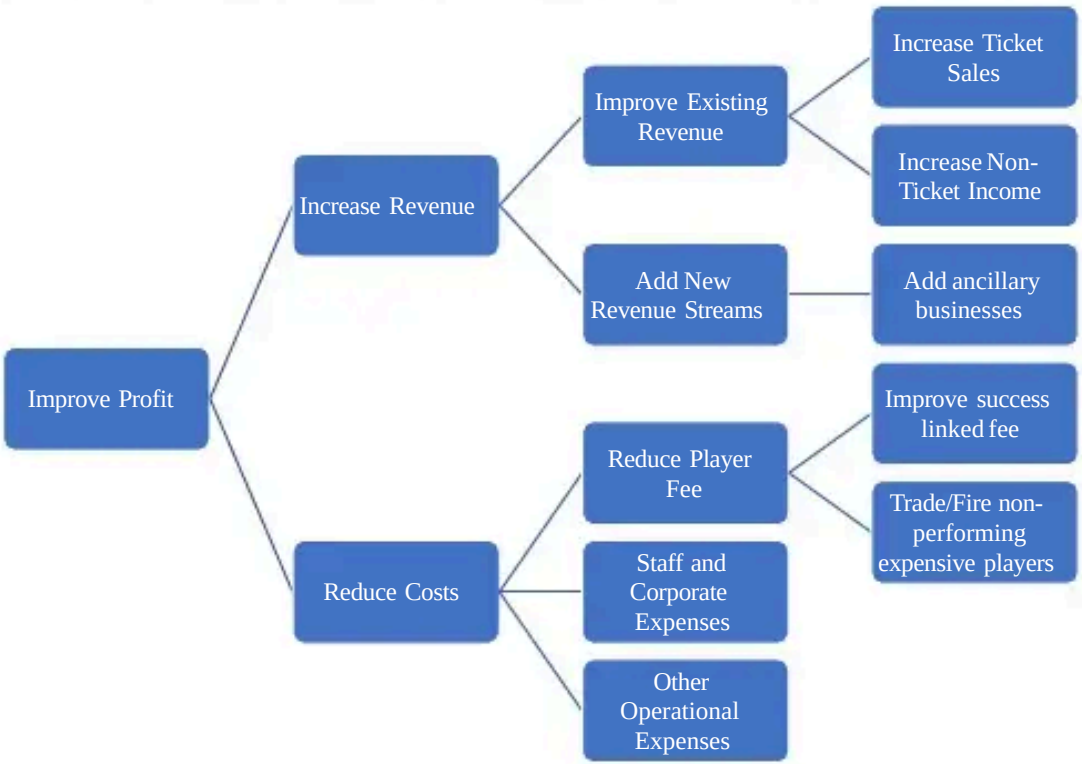
- Key revenue streams - Broadcasting Rights, Sponsorship, Ticket Sales, Merchandize Sale, Player trading
- Major Costs heads – Player Fee (30-35%), Franchise Fee (20%)

Sports
Investment Decision
Profitability

Easy
Medium
Hard

Cricket Mania

SAMPLE STRUCTURE



INTERVIEWER GUIDANCE

The interviewer should allow the Candidate to share different ideas but eventually guide the Candidate to focus on improving the Revenues

The next exercises, focuses on increasing existing revenues streams by improving team performance and brand-rating, thereby charging more for tickets, merchandize, etc. The Interviewer should try to guide the Candidate towards identifying that both these objectives can be achieved through acquiring Star players.

Once the Candidate takes that path, the interviewer should share Exhibit-1 & Exhibit-2 with the candidate and let them make the choice

Sports
Investment Decision
Profitability

Easy
Medium
Hard

Exhibit-1 (INTERVIEWER VERSION)

LPI TEAM RANKINGS FOR THE LAST 3 YEARS



AVERAGE STAR RATING SCORE



INTERVIEWER GUIDANCE

The Candidate should be able to identify that while the performance for most team typically varies, PCC has consistently performed poor. A great candidate would even calculate average ranking over the 3 years and see PCC as the lowest average ranking.

At this point, Interviewer should ask the Candidate that could be the potential reason for this and then guide the candidate towards looking to acquire new Start Players, to improve the team "Star-Rating". Once the Candidate has gotten there, the Interviewer should show Exhibit-2

Note: Rankings and reflect the team's performance i.e., highest bar indicates the w inning team and the lowest reflects the l a st finishing team

Sports
Investment Decision
Profitability

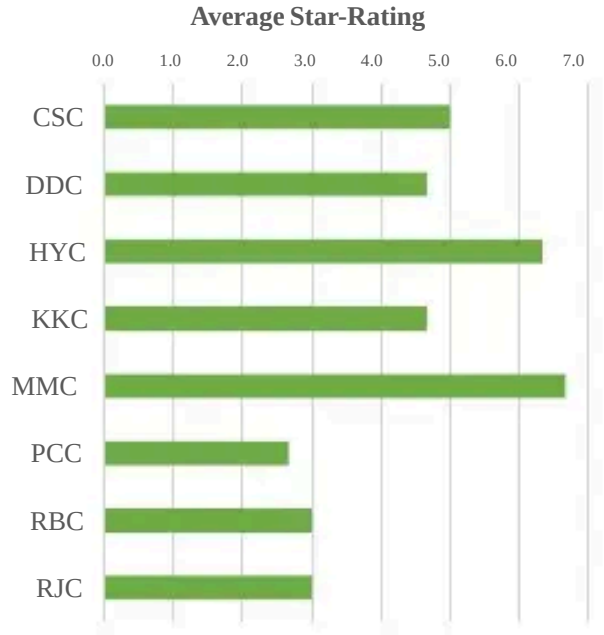
Easy
Medium
Hard

Exhibit-1 (CANDIDATE VERSION)

LPI TEAM RANKINGS FOR THE LAST 3 YEARS



AVERAGE STAR RATING SCORE



Note: Rankings and reflect the team's performance i.e., highest bar indicates the w inning team and the lowest reflects the l a st finishing team

Sports
Investment Decision
Profitability

Easy
Medium
Hard

Exhibits-2 (INTERVIEWER VERSION)

Star batsmen available for auction

	Signing Fee (USD Mn)	Games Played	Runs Scored	Avg. Score / Game	Start Rating (out of 10)
VK	15.0	200	6000	30	10
MD	15.0	200	4800	24	9
RS	12.0	200	6000	30	8
DW	10.5	150	5250	35	7
CG	12.0	130	5200	40	9

Star bowlers available for auction

	Signing Fee (USD Mn)	Games Played	Wickets Taken	Avg. Wicket / Match	Start Rating (out of 10)
LM	7.0	125	200	1.6	7
YC	5.5	100	121	1.2	6
JB	8.0	75	140	1.9	9
AM	5.5	150	175	1.2	6
DS	10.0	70	97	1.4	8

Note: Maximum permitted budget for acquisitions is $20mn

INTERVIEWER GUIDANCE

The Interviewer should explain that a Batsmen's success is linked to **scoring more**, whereas the Bowlers success is linked to maximum **wickets** – a great Candidate would suggest andanalyse additional metrics such as bowling economy, strike-rate, run-rate etc to refine his model. (althoughnot necessaryfor peoplewho don't understand the game)

The Interviewer should assess the Candidate's decision making on the basis of his/her ability to derive some kind of mechanism to put the data into perspective and make an objective decision. The ideal decision would be based on "highest average runs" and "highest average wickets" (which they do not have in their version). If the Candidate doesn't get to calculating average, the Interviewer shouldguide the Candidate to it.

The most ideal combinationis "CG as the batsmen" and "JB as the bowler" – a) highest averages, b) together add up to the allowed budget andc) highest combined Star rating

Exhibits-2 (CANDIDATE VERSION)

Star batsmen available for auction

	USD Mn	Games Played	Runs Scored	Start Rating (out of 10)
VK	15.0	200	6000	10
MD	15.0	200	4800	9
RS	12.0	200	6000	8
DW	10.5	150	5250	7
CG	12.0	130	5200	9

Star bowlers available for auction

	USD Mn	Games Played	Wickets Taken	Start Rating (out of 10)
LM	7.0	125	200	7
YC	5.5	100	121	6
JB	8.0	75	140	9
AM	5.5	150	175	6
DS	10.0	70	97	8

Note: Maximum permitted budget for acquisitions is $20mn

Sports
Investment Decision
Profitability

Easy
Medium
Hard

Cricket Mania

ACQUISITION DECISION

Would you spend money on acquiring the Star-Players?

INTERVIEWER GUIDE

At this stage Candidate can take the decision of acquiring the two star-players given that the budget allows them to spend $20mn. In this case, the Interviewer has two options -:

a) Skip the Exhibit-3 and straight move to Brain-Storming exercise

b) Challenge the Candidate by trying to quantify the financial impact of the decision in terms of additional profitability

However, a great candidate would proactively ask if we have any data or predictive analysis of the likely impact of the acquisitions. Given the aim is to improve profits, Candidate should try to assess the impact in terms of numbers and not just direction.

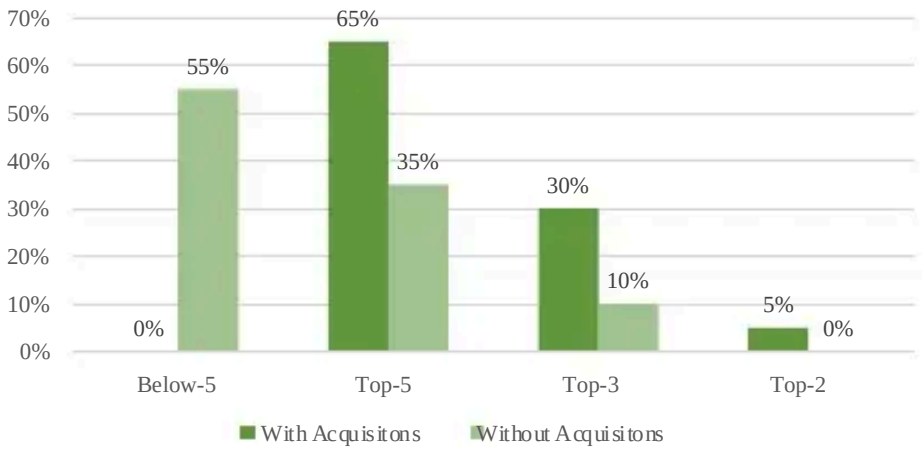
Interviewer should share Exhibit-3 if the Candidate asks for additional data to quantify the impact

Sports
Investment Decision
Profitability

Easy
Medium
Hard

Exhibit-3

PCC PPREDICTED YEARLY LEAGUE RANKING (3 YEARS)



ICPI PRIZE MONEY DISTRIBUTION BASIS

Rank	Prize (USD Mn)
Below-5	0.0
Top-5	10.0
Top-3	20.0
Top-2	50.0

INTERVIEWER GUIDANCE

- Predicted Yearly Profit with acquisition (USD Mn) = 65%*10.0 + 30%*20.0 + 5%*50.0 = $15.0mn (for 3 years)
- Predicted Yearly Profit without acquisition (USD Mn) = 55%*0.0 + 35%*10.0 + 10%*20.0 = $5.5mn (for 3 years)
- Additional Profit of ~10Mn/year for next 3 years **just** from Prize money. The investment of $20mn will get covered in two years. A great candidate would remember that the Star-Ranking of the team would also improve and thus lead to additional Revenues and hence even higher profits

Cricket Mania

BRAIN STORMING EXERCISE – NEW REVENUE STREAMS

What are some of the additional revenues streams that PCC can look to add to their operations in order to support the company turnaround and profitability?

SOME SAMPLE IDEAS

- Merchandizing revenue
- Start a junior training academy
- Launch a mobile gamming app
- Create a paid fan club with special privileges like priority access for tickets, lunch with players, etc.
- Partner with a co-branded cafes and sports bars
- Launch a sport magazine, sport website, online talk show for ad-revenues
- Launch co-branded credit/debit cards for fans to make commission income
- Ultra-Premium Membership for seats close to players, allowing hotel access to fans, and similar incentives

Cricket Mania

FINAL RECOMMENDATION (SAMPLE RECOMMENDATION)

Acquire the two-star players, because:

- The acquisition improves the probability of winning
- The Probability adjusted winning prize money increases profits by ~$10mn/year for the next three years
- The additional profits cover for the upfront investment of ~20mn
- The other revenue streams can add a significant headroom to the profits, given the non-prize revenues (typically a major chunk of income), will be directly related to the brand-value of the franchise and the star players. Which would improve a lot given the better performance in the league and the presence of Star players

Risks:

- Players come with high chances of injury, which means the winning probability may not be accurate
- Team sports also depend a lot on the team dynamics, maybe the players are not able to perform well with the franchise

The Bookstore

By Víctor Manzanares Bonilla (IESE MBA 2021)



Retail
E-commerce
Market Entry

Easy
Medium
Hard

The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

PROMPT

Our client, Classic Bookstore (CB), is a traditional bookstore chain in Spain, specialized in non-technical books. CB's revenue has stagnated for the past 3 years, with a stable and loyal customer base. Now, as part of its new growth strategy, CB is considering whether to enter the electronic books market.

The client is considering to sell a CB branded reading device and develop a website to sell e-books for it.

Our client asked us to analyze this opportunity and provide a recommendation.

CLARIFYING POINTS (if asked)

- CB only sells to customers through physical stores, no online business is available.
- CB has stores in the largest cities in Spain.
- CB has 3 types of customers: AVID READERS (2 books/month), OCCASIONAL READERS (1 book/2 months) and RARE READERS (1 book/6 months).
- Non-technical physical book market in Spain has been stagnated for the past 3 years.
- CB has reached an agreement with an e-Reader manufacturer in China. Total cost per device would be 60 €. These devices can only support the e-books sold on CB's new website.
- CB has no specific growth rate in mind and are open to suggestions from us.

CASE GUIDANCE

This is a case designed to be led by the candidate. Start by reading the case question and let the candidate drive the analysis. Do not provide any information until it is asked.

This case primarily tests the understanding of market entry and its implications on the current business model.

For simplicity, taxes and value of money over time have been ignored in this case, although excellent candidates should mention them during the case.

The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

INTERVIEWER GUIDANCE – STRUCTURE

Candidate's structure should cover the following key aspects of the problem.

MARKET OPPORTUNITY: What is the **market size** of generic e-books in Spain? What is this market's **growth**?

POTENTIAL SHARE: What would be our **market share**? How many competitors are we facing in this market?

POTENTIAL PROFIT: What is the potential **profit** of this new market? Expected revenues vs expected costs? What **investment** is required to enter in this new market? What is the expected **return on investment** of our client? Payback period?

CAPABILITIES & RISKS: Does this new market align with our client's **strategy** and **capabilities**? Do they have the know-how required? Have they got the financial capabilities to undertake this investment? What is the potential **cannibalization** of this new business model with the current one?

The analysis should be led by the candidate, starting for the market size. When the candidate requests information about the market and size, ask him to estimate the size of the non-technical books in Spain, both in paper and e-books.

The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

INTERVIEWER GUIDANCE – MARKET SIZING

(Suggested approach)

1. Population of Spain: 45M

2. Target population that reads: We assume people from 15 to 80 years old.
Population 0 – 20 (25%): 11.25M (Population 15-20: 11.25/4=2.8M)
Population 21 - 40 (25%): 11.25M
Population 41 – 60 (25%): 11.25M
Population 61 – 80 (25%): 11.25M
Total target population = 2.8 + 11.25 + 11.25 + 11.25 = 36.5 M

3. Percentage of population that buys books: We assume 60% of people between 15 and 80.
Total target population = 36.5M x 0.60 = 22M people

4. Type of readers: We assume the following categories and quantities
Avid Readers: 12 books/year x 2M readers = 24M books/year
Occasional Readers: 6 books/year x 5M readers = 30M books/year
Rare Readers: 2 books/year x 15M readers = 30M books/year

Total books: 24 + 30 + 30 = 84M books

5. Percentage of paper books and e-books and average prices:
PAPER BOOKS (93% of books): 78M books x 15 €/book = 1,170 M€
E-BOOKS (7% of books): 6M books x 8 €/book = 48M€

TOTAL MARKET: 1,170 + 48 = 1,220M€

The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

PROFITABILITY ANALYSIS – GIVEN DATA

In the next step, the candidate should focus on profitability. **Hand Exhibit 1** for this part and **provide the following information if requested:**

REVENUE

- Market Annual Growth: 5%
- Expected Market Share: 1%
- Paper book Gross Margin: 33%
- E-book Gross Margin: 40%
- E-reader price: To be determined by the candidate with **Exhibit 2.** Price range should be between 60 and 100 € to compete against Kindle.
- No customers change from paper to e-book after year 1. New readers are coming from new customers.

COSTS

- Webpage Investment: 150,000 €
- General Expenses website: 50,000 €
- Cannibalization: Candidate needs to calculate the number of users that will switch from paper to e-reader with **Exhibits 1 & 3**

The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

PROFITABILITY CALCULATION

YEAR	1	2	3	4	5
Market Size	48M €	50.4M €	52.92M €	55.6M €	58.38M €
Revenue e-books	480,000 €	504,000 €	530,000 €	560,000 €	584,000 €
Gross Margin	190,000 €	201,600 €	212,000 €	224,000 €	232,000 €
Profit from e-readers	120,000 € *	3,000 € **	3,250 €	3,750 €	3,000 €
Webpage investment	- 150,000 €	-	-	-	-
General Expenses	-50,000 €	-50,000 €	-50,000 €	-50,000 €	-50,000 €
Cannibalization	-90,000 € (50,000 books x -1.8€)	-90,000 €	-90,000 €	-90,000 €	-90,000 €
TOTAL PROFIT	20,000 €	64,600 €	75,250 €	87,750 €	95,000 €

(*) This calculation has taken into account a gross margin of 10€ per e -reader. Candidate will have to pick the price in each case. 12,000 readers are sold the first year, 11,000 to customers switching from paper to e-book and 1,000 to new customers.

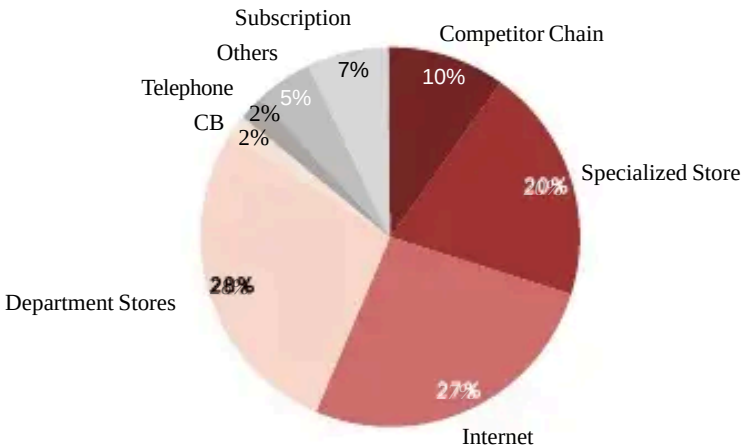
(**) No customers switch from paper to e-book after 1st year. New readers are sold to new customers acquired by market growth.

The Bookstore

Retail
E-commerce
Market Entry
Easy
Medium
Hard

EXHIBIT 1: NON-TECHNICAL BOOKS MARKET IN SPAIN

PAPER BOOKS MARKET IN SPAIN

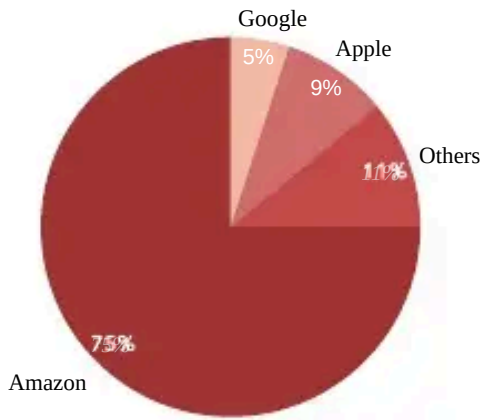


Market Size: 1,170M€

Annual Growth = 0%

Average price per book: 15€

E-BOOKS MARKET IN SPAIN



Market Size: 48M€

Annual Growth = 5%

Average price per e- book: 8€

Average consumption per reader: 10 e-books/year

The Bookstore

Retail
E-commerce
Market Entry
Easy
Medium
Hard

EXHIBIT 2: ELECTRONIC READERS

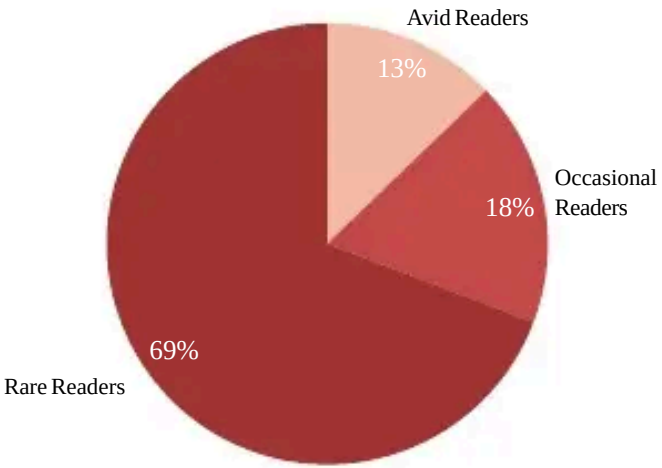
	CB e-Reader	Sony e-Reader	Amazon Kindle	Amazon Kindle PRO
Price	TBD	120€	100€	150€
Cost	60€	-	-	-
Formats accepted	CB	All formats	All formats	All formats
Storage	Up to 1,000 books	Up to 1,500 books	Up to 750 books	Up to 2,000 books
Extra Features	Medium	Medium	Low	High

The Bookstore

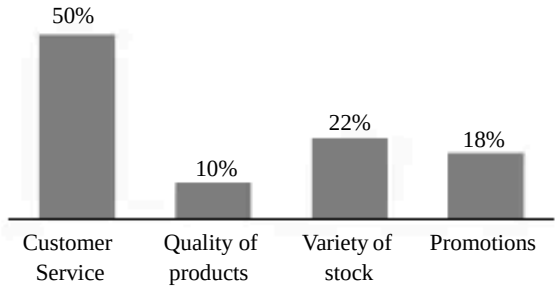
Retail
E-commerce
Market Entry
Easy
Medium
Hard

EXHIBIT 3: CB'S CUSTOMERS INFORMATION

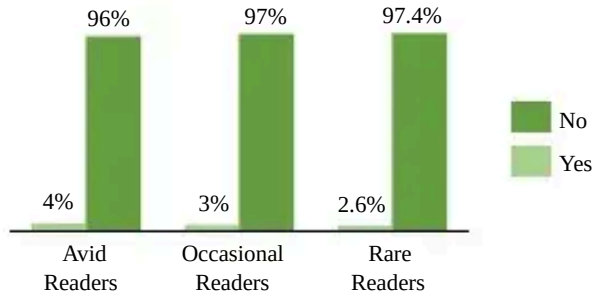
TOTAL CUSTOMERS: 390,000



What do you value the most about CB?



Would you consider switching to an electronic reader?



The Bookstore

Retail
E-commerce
Market Entry

Easy
Medium
Hard

BRAINSTORMING 1

How would you launch this product?

EXPECTED BRAINSTORMING 1

In this question, the analysis should be carried out by focusing on the following main aspects:

- **Segmentation** : What users are we targeting? What could be our main target considering the company's strategy and client base?
- **Product**: How can we highlight the strong aspects of our product? What do the customers want and how can we meet their demands?
- **Price**: Although the price has been set before, additional measures can be explored, such as promotions, free gifts to great customers, etc.
- **Promotion** : How should this product be marketed? What promotions should be used?
- **Place**: Through which channels should this reader be sold?

BRAINSTORMING 2

What other measure could our client implement in order to increase revenues?

EXPECTED BRAINSTORMING 2

In this question, the candidate should come up with additional measures to increase the current revenue streams. This measures should include:

- Increase number of products. Maybe including technical books in our offer could increase the number of customers.
- Creation of a loyalty scheme to try to increase average spending per customer.
- Creation a referral program to increase our customer base.
- Negotiate with e-reader supplier to include additional features.

The Bookstore

Retail
E-commerce
Market Entry
Easy
Medium
Hard

RECOMMENDATION

What is your final recommendation for Classic Bookstore?

SAMPLE RECOMMENDATION

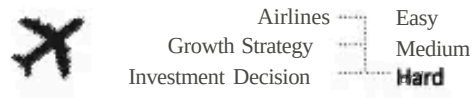
- The candidate should recommend to enter in this new market of electronic readers and e-books.
- Based on our calculations and projections, our client should expect a return of 342,600 € over 5 years from an initial investment of 150,000 €.
- RISKS: 1) Calculations have been based on projections of market share and a survey given by the client. Any deviation from this data could affect the profitability of the investment. 2) Similar book chains to CB could enter this market and reduce our client's potential market share. 3) Cannibalization with our client's current business model could damage the company's results and image.
- POTENTIAL NEXT STEPS: These risks could be mitigated by producing a deeper market analysis and carrying out further surveys among customers to have a more accurate prediction of the market behavior. Different programs could be explored to increase customer loyalty and new customers acquisition.

Excellent candidate:

- A candidate who points out that taxes and time value of money have not been considered during the profitability analysis and this would reduce the profitability of the investment.
- A candidate who mentions the lack of experience and knowledge of our client in this new business as part of the risks. This could lead to a reduction in customer service, which is very valued by our CB's clients.

Green Airlines

By Antonio Niemeyer (IESE MBA 2021)



Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

PROMPT

Due to the recent bankruptcy of a major airline, the aviation authority of Brazil recently opened an auction for landing and takeoff slots in one of the country's biggest airports. A slot is the right to land and depart from an airport during a given time period.

Green Airlines, a small, regional airline operating in the North part of the country, was offered 10 slots, for the total price of $100M. If Green accepts to buy the slots, it will have to operate them for at least 5 years.

The owner and CEO of Green Airlines approached your firm looking for an advice on whether they should buy the slots or not.

CLARIFYING POINTS (if asked)

- An airport slot is a permission granted by the owner of an airport, which allows the grantee to schedule a landing or departure at that airport during a specific time period
- Green airlines currently does not operate in the airport that is being discussed
- Green airlines currently only flies regional flights and has no plans to include international flights in its offerings
- Green airlines currently does not have the necessary planes to operate the slot. Management will need to lease 5 airplanes to operate the 10 slots
- The $100M that Green Airlines would have to pay is a one-off payment, due before operations start
- The main objective of the owner/CEO is financial gain
- Green Airlines can sell the slots, but only after five years of operation
- If Green Airlines does not buy the slots, they will be sold to another airline

CASE GUIDANCE

In this case, the candidate will need to lead through directive questioning. Although the answer may seem straightforward, the case will force the candidate to analyze the problem from different perspectives; it will demand not only math and problem-solving skills, but also, creativity.

A strong candidate will quickly realize that in order to answer the questions of Green Airlines' CEO, it will be necessary to understand the strategic fit and the financial implications of buying the slots. After realizing that it does not make sense to buy the slots to operate them, the candidate should explore alternative way to explore the opportunity that has emerged.

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

INTERVIEWER GUIDANCE – STRUCTURE

The candidate should realize that this is an opportunity for Green Airlines to expand its business into one of the country's main airport.

Suggested items-to-consider are:

Market - What's the trend for the demand of flights in the airport's region? What's the profile of travelers (business or leisure)? Are the other airlines going through financial difficulties? Is the industry suffering in general or was the bankruptcy a one-off event?

Competition - How many companies operate at this airport? Are the slots currently concentrated in the hands of a few companies or are they split among several companies? Do Low Cost Carriers operate in the airport? What's competitor's price?

Revenues/Costs - What's the expected number of passengers per day per slot (plane size, load factor, flights/day)? What's the expected price per passenger? What are the fixed costs? What are the variable costs?

Internal Capabilities - Does Green Airlines have the operational capabilities necessary to operate the slots (planes, overhead, sales system, suppliers)? Does operating in a big airport demand a different strategy than operating small, regional airports? Does Green Airlines have the financial capabilities necessary to pay for the slots? If not, what are its options?

Risks/Alternatives - Cultural issues of setting up operations in a different area. Are there other regions that might be more attractive?

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

INTERVIEWER GUIDANCE – PART 1

If the candidate raises concerns related to **competition, operational challenges or the aviation market in Brazil, hand Exhibit 1** (next page) to clarify these points.

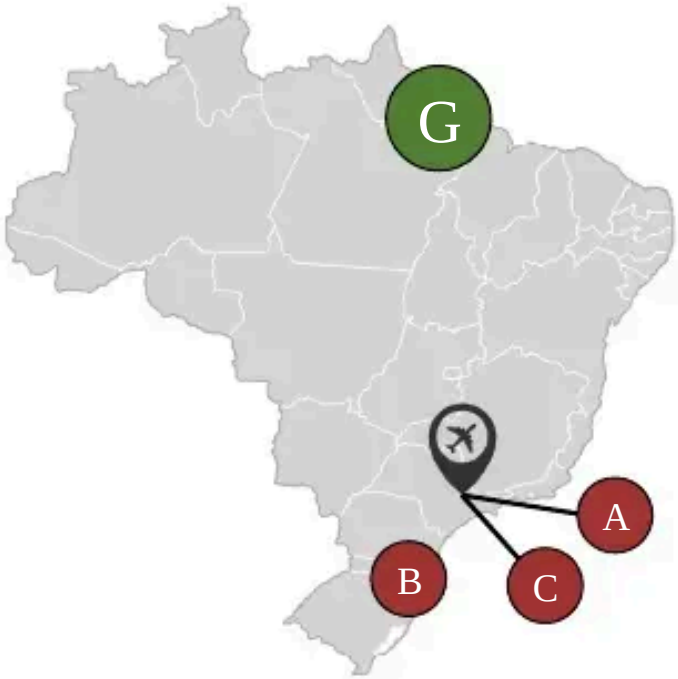
KEY TAKEWAYS – EXHIBIT 1

- The candidate should notice that Green Airlines operates in a very distinct region of Brazil and is much smaller than the main players of the Sao Paulo region
- Buying the 5 planes would mean almost doubling Green Airlines fleet, and represents a significant strategic shift
- Airlines A and C are big players located in Sao Paulo, and they currently operate planes bigger than the other airlines, however, the price per ticket is lower (this may be due to shorter flights and high competition)
- The average load factor in Sao Paulo is significantly higher than the average for Green Airlines
- If Green Airlines were to buy the slots, it would most likely need to have bigger planes and keep prices low

Green Airlines

Airlines
Growth Strategy
Investment Decision
Easy
Medium
Hard

EXHIBIT 1



Current Operations	Airlines A	Airlines B	Airlines C	Green Airlines
City Hub	São Paulo	Santa Catarina	São Paulo	Pará
Total # of planes	100	80	70	6
Avg plane size (# seats)	300	200	300	100
Avg Load Factor (%)	80%	70%	80%	60%
Avg Ticket Price ($)	200	250	200	300

Airport selling slots

A Airlines A Main Hub

B Airlines B Main Hub

C Airlines C Main Hub

G Green Airlines Main Hub

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

REVENUE ANALYSIS

First step is to estimate the potential revenues of the slot operation. **Ask the candidate what factors s/he would use to estimate the revenues.** When asked, provide the following information in the table:

Revenues – For operation of 10 slots

# of planes	5
flights / plane / month	50 flights
Seats / plane	250 seats
Average Load Factor (%)	80%
Average Ticket Price	$ 200

REVENUE CALCULATION

Revenue per month = # of planes * # flights/plane * # seats * load factor * ticket price

= 5 * 50 * 250 * 80% * 200 = 50,000 passengers * $200/passenger

= $10 million/month

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

COST ANALYSIS

Second, the candidate should estimate the costs of operating the slots. **Ask her/him what s/he believes to be the main costs of an airline (fuel, crew, maintenance, insurance, leasing, fees, overhead, etc.).** After discussing the main lines of cost, provide the following information in the table:

Costs – for operation of 10 slots

Initial Investment	$5M (to set up operations)
Fuel	$14k per flight
Other Variable Costs	$4k per flight
Salaries	$1,5M per month
Maintenance & Leasing	$400k per plane/month
Insurance, Fees & Others	$2M per month

COST CALCULATION

Fuel: $14k * 50 * 5 = $ 3,5M/month

Other Variable Costs: $4k * 50 * 5 = $ 1,0M/month

Salaries: $ 1,5M/month

Maintenance & Leasing: $400k * 5 = $ 2,0M/month

Insurance, Fees & Others: $ 2,0M/month

Total Cost: $10M/month

Expected Profit:

Year 1: -$5M + $120M - $120M = -$5M

Following years: $120M - $120M = $0

Expected Insight:

The candidate should realize that the expected **operational result is -$5M in Year 1, and zero in the following years** for the 10 slots on sale.

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

ALTERNATIVE ANALYSIS

After concluding that the operating profit would be zero for the slots, **ask the candidate what additional analyses s/he would make in order to decide whether to buy the slot or not.**

POTENTIAL ALTERNATIVES

The candidate should come up with potential alternatives:

Improve operational metrics

- Possibility to increase revenues (increase ticket price, include non-ticket revenues, offer packages, shuttle services, etc.)
- Possibility to reduce costs (use bigger planes to reduce fixed costs, negotiate lease terms, exclude food inflight, automatization of processes, change fuel supplier, etc.)

Buy slots and sell to other company

- Airlines A and Airlines C have their Hubs in Sao Paulo. The slots are probably worth a lot for them.
- How much is the market value of a Slot?

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

INTERVIEWER GUIDANCE – PART 2

After discussing the potential alternatives, **state that management has already explored all alternative ways to improve the operational result, and the numbers presented are already considering all operational improvements possible.**

EXPECTED TAKEWAYS

If the candidate does not reach this solution by herself/himself, **say that the slots are very valuable for the big airlines operating in the region.**

The big airlines have operational advantages related to **scale**. They operate bigger planes (300 seats) than Green Airlines, so their potential revenues are higher (all other assumptions remain the same, including costs).

Ask the candidate to calculate the value of the 10 slots for the big airlines, considering planes with 300 seats.

Expected Calculation:

New Revenue per month = 5 * 50 * 300 * 80% * 200 **= $12M/month**

New Monthly profit = $2 million/month
= $24 million/year

Green Airlines

Airlines
Growth Strategy
Investment Decision

Easy
Medium
Hard

INTERVIEWER GUIDANCE – PART 2

Now that we know the operational results for a big company utilizing these 10 slots, **ask the candidate to estimate the value of the slot for a big company such as Airlines**

A. Provide the following information if requested

Valuation of Slots	
Discount Rate	10% per year
Right to use	perpetual

CALCULATION

Expected calculation (assuming the Net Profit as a perpetuity):

Value of slots = $24M / 10% = **$240M**

Expected Insight:

The candidate should identify that the 10 slots have a total value of approx. $ 240M for the big airlines, and that the best choice is to buy the slots, operate them for 5 years at zero profit, and sell them to a big airlines for a value between $105M and $240M.

RECOMMENDATION

Ask the candidate her/his final recommendation

SAMPLE RECOMMENDATION

The recommendation should be that Green Airlines buy the 10 slots, operate them for the mandatory 5 years and then sell them at a potential profit of approx. $135M

Pipeline Oil Technology

By Roberto Carlos De Araujo (IESE MBA 2021)



Oil & Gas
Operations
Pricing

Easy
Medium
Hard

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

PROMPT

Minerva's University Fluids Research Lab has discovered a more efficient way to transport crude petroleum oil inside pipelines. This new technology can be used in midstream applications where the oil is acquired from the extraction plant and delivered to the refinery plant. The university invested $ 1,200M in this project during the last 12 years.

The new technology mixes water and oil under certain conditions to reduce the loss of energy, caused by the friction between the oil and the pipeline surface while being transported. As a result, the transport between two given points gets 15% faster and the useful lifetime of the pipelines increases by 20%.

Minerva's University asked our help to determine the value at which they should sell the technology .

CLARIFYING POINTS (if asked)

What is the market?
- Mexico.

How big is the market?
- 4,800 km of pipeline.

Who are the competitors and market share?
- National Oil Company (NOC) is the only player. However, the market is open for the last two years.

Which are the potential buyers?
- Primarily, NOC. However, the other two prospects are interested in entering the market.

Does the University have a patent? How long does it last?
- The University has already filed for a patent, which lasts for 20 years.

What is NOC pipelines current capacity?
- Full capacity. Surplus is transported by more expensive means such as rail car, barge and truck.

How is the demand for crude oil?
- NOC sells all the crude oil it buys. See Exhibit 2 for the next years' forecast.

Can NOC build more pipelines to substitute other means of transportation?
- Yes, it is an alternative. However, there are costs involved. See "4. Given Data - Alternative: Expand Pipeline Network"

How long does it take to implement this technology?
- Minerva's University estimates that the technology would be running in 100% of the pipelines in one year at $2,000 M installation cost.

CASE GUIDANCE

Crude oil Value chain

Downstream:
- Exploration - Extraction

Midstream:
- Transportation

Upstream:
- Refinery - Marketing/Sales

Midstream Business Model

1) Buy from the extractors (*)
2) Transport crude oil from the extractor to the refinery
3) Sell to the refineries at $10 per barrel

(*) Assume that Cost of transportation already incorporates the buying price from the extractors.

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

INTERVIEWER GUIDANCE – STRUCTURE

Identify the main drivers of the pricing and evaluate the results by comparing to other investments.

A) PRICING:
Value = (1) Savings Costs of transportation + (2) Savings Cost of replacing pipelines – (3) Cost to implement

(1) Savings in Cost of transportation
- Increase in flow speed leads to increase in the pipeline's delivery capacity
- Save costs of sales by switching from other means of transportation to pipelines

(2) Savings in Cost of replacing pipelines
- Save Costs by using the pipelines for longer, reducing the replacement

(3) Cost of installation
- $2,000 M

B) COMPARISON: Compare the value of the technology to other investments to validate the final pricing

(4) Research Investment (by Minerva's University):
- $1,200 M (spent in the last 12 years by Minerva's University)

(5) Alternative investment (for National Oil Company):
- Investment to expand the pipeline network from 2 M to 2.5 M barrels per day

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

REVENUE ANALYSIS

Hand over Exhibit 1 if the candidate asks for revenues and/or costs breakdown

DEMAND ANALYSIS

Hand over Exhibit 2 if the candidate asks about the demand for the next years

PRICING CALCULATION

(1) Savings in cost of transportations (SCOT):

SCOT = (I) Sales for 20 years * (II) Savings in switching transportation = $162,000 M * 0.035 = $5,670 M ~ $6,000 M in 20 years (or $300 M / year)

(I) Sales for 20 years = Chart area (trapezoid) * 360 days * price per barrel: = [(2+2.5) * (20) x (1/2)] * 360 * 10 = $162,000 M

(II) Savings in switching transportation = % increase pipeline use * proportional savings = 10% * 0.35 = 0.035

Switching from truck (5%) and rail (5%) to pipeline: % increase pipeline use = 15% * 70% = 10.5% ~ 10%

Proportional Savings:= [% truck * (cost truck – cost pipeline) + % rail * (cost rail – cost pipeline)] = 5% * ($6 - $2) + 5% * ($5 - $2) = 0.35

TIP: ROUND OFF NUMBERS

Suggest the candidate to round off numbers to facilitate easier calculations. Some suggestions are underlined in the case. Nonetheless, strong candidates figure out these opportunities by themselves.

Pipeline Oil Technology

Oil & Gas Operations Pricing — Easy — **Medium** — Hard

EXHIBIT 1

Income Statement	
+ Sales	$7,200 M
- Cost of transportation (*)	$1,980 M
- Cost of replacing pipelines	$1,000 M
- Other operating costs (**)	$3,500 M
Operating profit	$720 M

Table 1: Income statement for Year 0, assuming sales of 2M barrels per day.

Means	Cost	Barrels
Pipeline	$2 per barrel	70%
Truck	$6 per barrel	5%
Barge	$3 per barrel	10%
Rail	$5 per barrel	15%

Table 2: Cost of Sales breakdown per means of transportation

(*) Cost of transportation already includes the buying price from the extractors.
(**) Assume that Other Operating Costs do not change over the years.

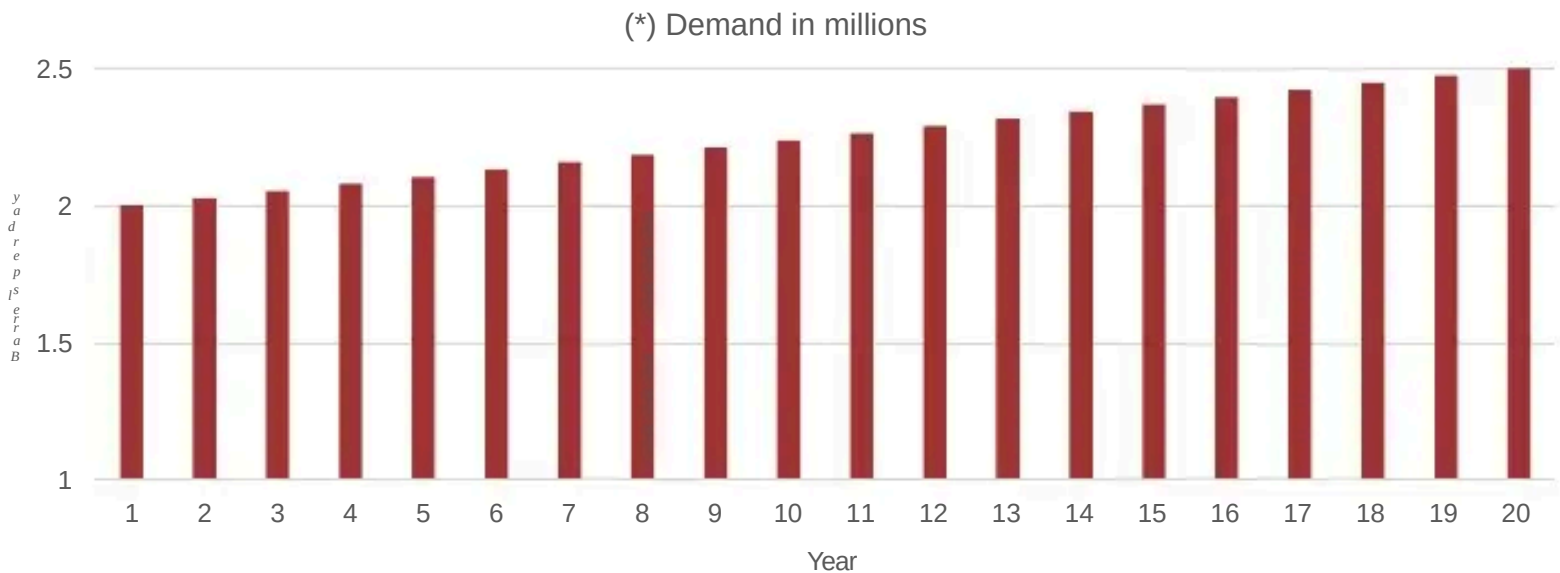
Pipeline Oil Technology

Oil & Gas Operations Pricing

Easy
Medium
Hard

EXHIBIT 2

Crude oil demand forecast



(*) In a given year, assume that the demand per day is the same for all the 360 days.

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

PRICING CALCULATION

(2) Savings in Cost of replacing pipelines (SCRP):

= Cost of replacing pipelines per year * 20 years * (1 - new lifetime/current lifetime)
= $1,000M * 20 * [1 - 4/5 years] = $4,000M in 20 years (or $200M per year)

GIVEN DATA:

- Cost of replacing pipelines: $1,000M per year

- Lifetime of regular pipeline: 5 years

ALTERNATIVE ANALYSIS

Expand network pipeline

Investment to expand the pipeline network:

= (Additional capacity in 20 years / Additional Capacity) * cost to implement
= (2.5 M – 2M) / 0.05 M * $700 M = $7,000 M

GIVEN DATA:

- Additional capacity: 50,000 barrels per day

- Time to implement: 2 years

- Cost per additional capacity = $ 700 M

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

COMPARISON ANALYSIS

PRICING	$8,000 M
(+) Savings in Cost of transportation	$6,000 M
(+) Savings in Cost of replacing pipelines	$4,000 M
(-) Cost of installation	$2,000 M

INVESTMENTS	
(-) Research Investment (University)	$1,200 M
(-) Alternative investment (National Oil Company)	$7,000 M

NEGOTIATION

The University can recover its investment by selling the technology for any price over $1,200 M. Given the estimated savings and cost of installation, NOC will pay less than $ 8,000 M to guarantee profits/savings.

Alternatively, NOC can construct its own pipeline network for a total investment of $7,000 M. Then, it is better to buy the technology for $ 7,000 or less than to go forth with this alternative investment. Note that the alternative investment is limited by additional 50,000 barrels/day capacity in two years, while the new technology can be put in operation in just one year.

Therefore, a reasonable price for selling this technology would be between $1,200 M and $7,000 M.

Pipeline Oil Technology

Oil & Gas
Operations
Pricing

Easy
Medium
Hard

RECOMMENDATION

What would be your final recommendation to Minerva's University?

SAMPLE RECOMMENDATION

The general recommendation is open. One of the possibilities is to sell the new technology for a price of $1,500 M plus a 30% participation in the additional revenue while the University holds the patent (40% of $10,000M = $3,000M in 20 years, disregarding cost of installation). There are three reasons that support this proposal:

1) Cost savings by increasing the volume of crude oil transported in pipelines. According to the calculations, $300 M per year (around 40% of the current Operating Profits)

2) The improvement in the pipeline lifetime is also relevant accounting for $200 M per year (around 25% to 30% of the current Operating Profits)

3) The alternative of expanding the pipeline network is a higher investment than the cost savings generated by the new technology. Besides that, expanding the pipelines is limited by additional 50,000 barrels/day in two years, while the new technology can be put in operation in just one year.

A great candidate would also briefly discuss any risks or next steps:

Main risks / sensitive assumptions:
- Delay in installation of the new technology
- Limitation in reaching some regions, since it can be done only by a specific means of transportation
- High investment ($2,000M). Options: cash surplus, bank loan, increase in equity
- Crude oil price fluctuation -> Use future contracts to guarantee buying and selling prices
- Demand fluctuations because of crisis or other external factor

Next steps:
- Verify calculations with NOC's calculations/data to validate the assumptions
- Define a negotiation strategy based on the calculations/assumptions
- If the negotiation fails, look for other prospective buyers

Nica Productions

By Alfonso Tomás Durandeu (IESE MBA 2021)



Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

Nica Productions

Media & Entertainment
Profitability
Operations Cost



Easy
Medium
Hard

PROMPT

Nica Productions is an American Media company that is trying to figure out its next project. This company has an extensive experience producing series and movies for all types of audiences and has got many awards doing so. This company has two alternatives: to produce a series for a streaming company or a movie to be projected in cinemas worldwide.

Producing media content implies big investments and low certainty about potential incomes, which depends on many factors; for that reason, our client has hired us to help her decide which is the best alternative for her.

CLARIFYING POINTS (if asked)

- There is no specific profitability goal
- The company is known worldwide, with access to top star directors, actors and technical staff
- It has not budget limitation
- Both alternatives look for a worldwide reach but target different type of customers
- Production of any alternative will last one year
- There is no alternative project
- The main source of revenue of both projects depends on audience

CASE GUIDANCE

This is a quantitative case that requires the candidate to estimate the potential cashflow of different alternatives in order to get the NPV and decide the best option for the client.

The candidate will need to ask for additional information that is necessary to solve the problem, rather than relying on the interviewer to dispense it.

Especially for less finance-read candidates, you may have to help nudge trough the math and formulae.

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

INTERVIEWER GUIDANCE – STRUCTURE

The candidate should express that the company will **pursue the project that generates the higher positive profits** and show that in his/her Framework.

- A good candidate will take into consideration uncertainties related to production and revenues streams and express the intention to estimate NPV of each project.
- Other aspects to bear in mind are competition, market trends, company's strategy, etc.

If asked for information about **REVENUES and COST, make him/her BRAINSTORM about it.**

- A good candidate would understand that revenues come not only from tickets or broadcasting royalties but also from merchandising, games, DVD/Blu-rays, etc. In terms of cost, the candidate should mention the basics: director, actors, production, marketing, etc.

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

PROJECT ALTERNATIVES ANALYSIS – MOVIE

The company is not sure about **which type of movie they want to produce and if it will be able to hire the director and actors for the desired alternative** . However it was able to assign probabilities for each scenario. Income will depend on the size of audience movie attracts, which further depends on the critics received. **Which project (movie or series) should our client choose? (Show Exhibit 1).**

ANALYSIS TAKEWAYS – MOVIE

In order to estimate the NPV of this alternative, the candidate should **calculate the corresponding Cash Flows and request for a Discount Rate (20%).** The investment are made at the beginning of the project and incomes are received at the end of year 1 (Solution in the following slide).

A good candidate will:

- read the note to get the information about how much money the company receives from Cinema chains
- be structured and present the calculation with clarity (ideally, in the form of a decision tree)

Nica Productions

Media & Entertainment — Profitability — Operations Cost: Easy / **Medium** / Hard

ANALYSIS CALCULATION - MOVIE

TOTAL AUDIENCE (TA):

TA = [(AudienceGood * %Good) + (AudienceBad * %Bad)]

TA NOLAN = [(600M * 70%) + (400M * 30%)] = [420M + 120M] = 540M

TA BAY = [(400M * 80%) + (200M * 20%)] = [320M + 40M] = 360M

INCOME:

1ST YEAR (Year 0)

There is no income

2ND YEAR (Year 1)

Income = Total Audience * Ticket Price * %Commission

Income NOLAN = 540M * 10 USD/t * 10% = 540M USD

Income BAY = 360M * 10 USD/t * 10% = 360M USD

INVESTMENT:

Each alternative has its own cost structure (See exhibit 2)

(M USD)	ALTERNATIVE 1		ALTERNATIVE 2	
Year	0	1	0	1
Investment	-150	0	-100	0
Income	0	540	0	360
Cash Flow	-150	540	-100	360
NPV	-150	450	-100	300
Accumulated NPV	300		200	

	ALTENATIVE 1		ALTERNATIVE 2	
	GOOD	BAD	GOOD	BAD
Probability (%)	70%	30%	80%	20%
Audience (M)	600	400	400	200
Contribution (M)	420	120	320	40
Average audience	540		360	

	ALTERNATIVE 1	ALTERNATIVE 2
Probability (%)	60%	40%
NPV (M USD)	300	200
Contribution (M)	180	80
Average NPV (M USD)	260	-

Nica Productions

Media & Entertainment
Profitability
Operations Cost
Easy
Medium
Hard

EXHIBIT 1: MOVIES ALTERNATIVES

	Alternative 1		Alternative 2	
Target Audience	Teenagers and Young Adults		Kids and Teenagers	
Probability (%)	**60%**		**40%**	
Director	Christopher Nolan	25M USD	Michael Bay	10M USD
Main Actor	Tom Hardy	50M USD	Mark Walhberg	25M USD
Support Actor	Michael Cain	25M USD	Tyrese Gibson	5M USD
Others	Production & Marketing	50M USD	Production & Marketing	60M USD
	Critics		**Critics**	
Good	70% chance of getting 600M audience		80% chance of getting 400M audience	
Bad	30% chance of getting 400M audience		20% chance of getting 200M audience	

Note: Filmmakers receive as income 10% of the ticket sales (10 USD/ticket);

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

PROJECT ALTERNATIVES ANALYSIS - SERIES

The company already has the **script for a potential Series**, and in case of choosing this alternative, it will receive an upfront payment from the Streaming company. Income will be based on the Audience per episode in the first year **(Show Exhibit 2).**

ANALYSIS TAKEWAYS - SERIES

In order to estimate the NPV of this alternative, the candidate should **calculate the corresponding Cash Flows and request for a Discount Rate (20%).** The investment is made at the beginning of the project and incomes are received at the end of year 1 (Solution in the following slide)

A good candidate will:

- understand that the Script expense (10M USD) is a sunk cost and it should not be taken into consideration to make the decision
- be structured and present the calculation with clarity (ideally, in the form of a decision tree)

If the candidate realizes about the sunk cost, she/he will choose to produce a Series. If not, make him/her identify the mistake

	NPV	NPV (with sunk cost)
Movies	260	260
Series	270	260

Nica Productions

Media & Entertainment
Profitability
Operations Cost
Easy
Medium
Hard

ANALYSIS CALCULATION - SERIES

TOTAL AUDIENCE (TA):

TA = [(AudienceGood * %Good) + (AudienceMedium * %Medium) + (AudienceBad * %Bad)] * #Episodes

TA = [(100M * 30%) + (70M * 40%) + (40M * 30%)] * 10 = [30M + 28M + 12M] * 10 = 700 M

INCOME:

1ST YEAR (Year 0)

The income in the first year is the Upfront = 20M USD

2ND YEAR (Year 1)

Income = Total Audience * Income per episode (PMV) = 700M * 600k USD = 420M USD

INVESTMENT:

If the company chooses this alternative, it should make an additional Investment of 100M USD (The Script is a sunk cost)

	GOOD	MEDIUM	BAD
Probability (%)	30%	40%	30%
Audience (M)	100	70	40
Contribution (M)	30	28	12

ADDITIONAL DATA	
Upfront (M USD)	20
# episodes	10
Income per episode (PMV) (USD)	600,000

INVESTMENT (USD)	
Cost (M USD)	100
Upfront income (M USD)	20
Investment (M USD)	80

(M USD)	SERIES	
Year	0	1
Investment	--100	0
Income	20	420
Cash Flow	--80	420
NPV	--80	350
Accumulated NPV	270	-

Nica Productions

Media & Entertainment
Profitability
Operations Cost
Easy
Medium
Hard

EXHIBIT 2: SERIES

EXPENSES	
Script (already bought)	10
Actors	60
Production	40

ADDITIONAL DATA	
Upfront income (M USD)	20
# episodes	10
Income per episode (PMV)	600,000

AUDIENCE LEVEL	AUDIENCE PER EPISODE (M USD)	PROBABILITY
High	100	30%
Medium	70	40%
Bad	40	30%

PMV: per million views

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

PROJECT ALTERNATIVES ANALYSIS – ADDITIONAL INFO

Would your decision change with this new information? (Show Exhibit 3)

TAKEWAYS – EXHIBIT 3

Show the candidate Exhibit 3, which contains an additional cash flow for Michael Bay movie from merchandising and other incomes.
The candidate should **identify the tendency in the cashflow (CAGR -10%) and calculate a perpetuity.**
Adding those Cash Flows to Alternative 2 will affect the NPV.
As a result of this information, the final decision will change.

	PERPETUITY
Initial Cash Flow (M USD)	20
Growth (%)	-10%
Discount Rate (%)	20%
NPV (M US)	66.7

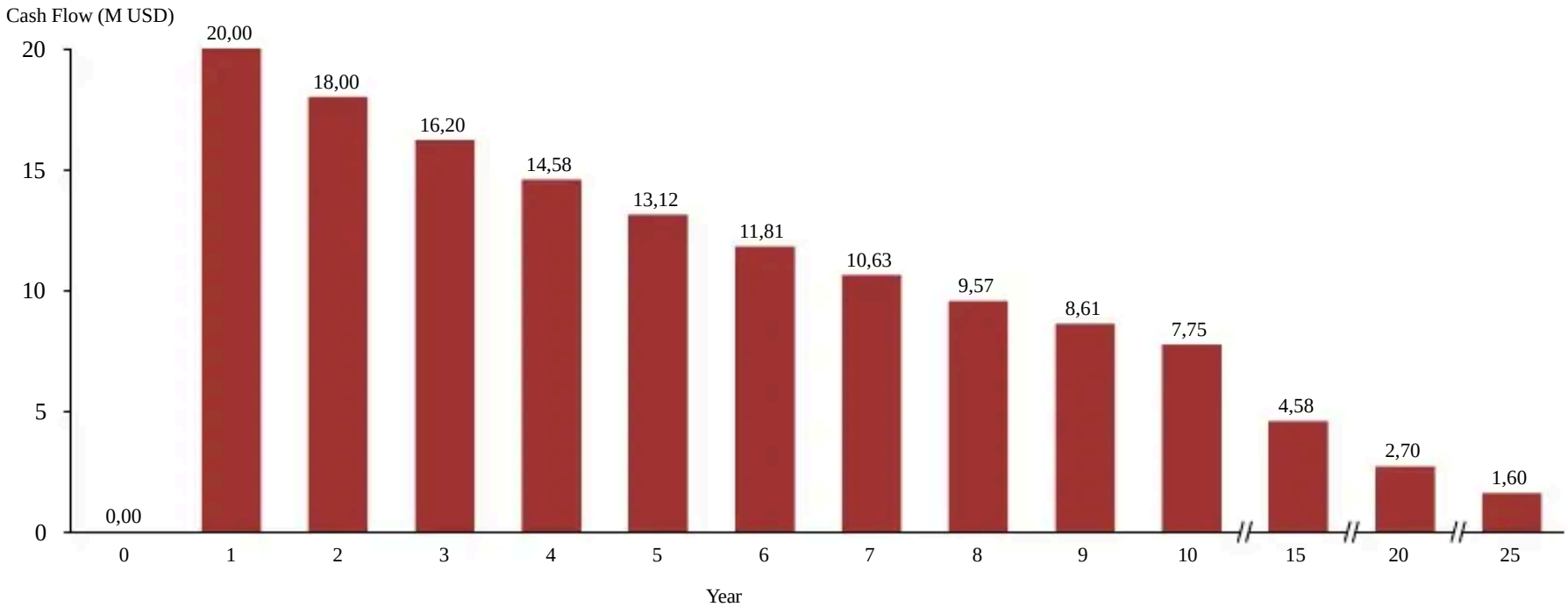
	ALTERNATIVE 1	ALTERNATIVE 2
Probability (%)	60%	40%
NPV (M USD)	300	266.6
Contribution (M)	180	107
Average NPV (M US$)	287	- -

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

EXHIBIT 3 – MOVIES ALTERNATIVE 2



Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

PROJECT ALTERNATIVES ANALYSIS – OTHER FACTORS

Which other factor would you take into consideration?

EXPECTED CONSIDERATION

The candidate should quickly identify the uncertainty and our capability to assess it as the main risk.
Factors that can influence:

- Production is not finished on time and target launch is missed
- The launch of a good movie made by a competitor
- An economic crisis that affects the consumption
- Others

This question is to test the candidate's business sense and creativity. There is room for the candidate to discuss other factors, including other revenue streams and intangible factors, always justifying his/her answer.

Nica Productions

Media & Entertainment
Profitability
Operations Cost

Easy
Medium
Hard

RECOMMENDATION

Great, our client is coming and will request a recommendation.

RECOMMENDATION – SUGGESTION

The candidate should be concise and structured, without mentioning topics that were not discussed.

It is important to highlight the uncertainty of the decision process and he/she should suggest potential ways to reduce it.

Cowbon Emissions

By Emily Hinton (IESE MBA 2021)



Agriculture
Sustainability
Operations

Easy
Medium
Hard

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

PROMPT

Our client is a major milk producer in New Cowland, Milking it Co., MIC. New Cowland has recently introduced a law that means MIC has to reduce its GHG emissions by 45% of 2019 levels within the next five years or face being shut down or heavily fined. They currently produce 20% of New Cowland's GHG emissions.

The CSO has hired us to figure out a way to reach this target.

CLARIFYING POINTS (if asked)

- MIC produces approximately 100% of New Cowland's milk supply
- MIC does not have plans for expansion, but reducing volumes is not an option
- They only produce milk and have no plans to diversify
- Budget for this project is $750m/year for the next five years (for perspective, current revenues are $15billion)
- MIC owns the entire production chain – from farms, production and transport, they sell to a variety of clients

The candidate might ask what the breakdown of where GHG comes from within the business, this is shown in Exhibit 1

- 5% of their market is local, the rest is foreign
- Only need to reduce GHG directly produced by MIC

CASE GUIDANCE

This case is designed to test brainstorming, business decision-making skills and logic. It will help candidates wanting to practice market sizing and working on unconventional problems. For calculations ignore the time value of money.

It is a long case designed for advanced candidates; some aspects can be removed for the sake of time – these are clearly marked.

Interviewer guidance has been provided at various stages.

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

INTERVIEWER GUIDANCE - STRUCTURE

A good framework would touch on:

- Different ideas to reduce GHG emissions in the different segments of the business (farming, processing, transportation, overheads, etc.)
- Ability to implement changes
- Financial implications
- Non-financial implications – PR, risks (e.g., change in government, a backlash from farmers)

The candidate should lead the case towards understanding the current breakdown of GHG emissions– if not, the interviewer should gently nudge toward this path.

GHG EMISSIONS ANALYSIS

The candidate should be presented with Exhibit 1 if s/he asks about the breakdown of GHG in each business segment . Candidate should be told that MIC has already taken measures to reduce Overheads Emissions and MIC believes that there is no further that can be done to reduce these.

EXHIBIT 1 TAKEAWAYS

- GHG emissions have been increasing over the last three years with farming being the key driver
- Farming is the largest emitter followed by production
- From farming, cows are by far the largest emitter producing 63% of 2019 's emissions – this would be the key thing to look into first as it can make the biggest difference (it is the only value that is over 50% of the emissions by itself)
- Processing is the second biggest emitter so that should be focused on next (20% of total emissions)

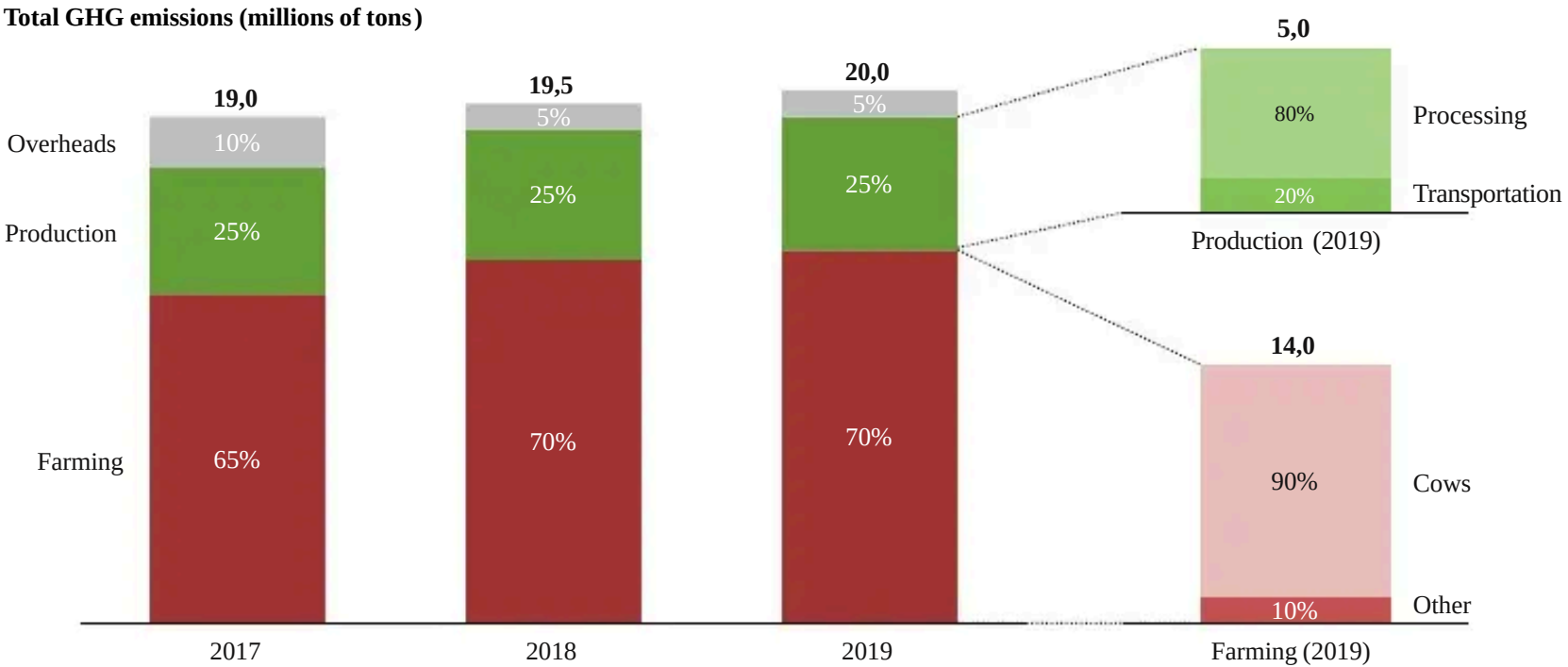
The candidate should identify cows as the first logical step to explore in reducing emissions.

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

EXHIBIT1 - TRENDSOF GHG EMISSIONSOF MIC



Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

COW EMISSION ANALYSIS

There is a new breed of cow that MIC is interested in to replace their current herd. All characteristics are the same as the current herd, but they produce 33% less GHG emissions.

As MIC owns farms all over New Cowland, they want us to approximate how many cows they have in total.

ESTIMATION DATA

Provide only if requested:

- Population of New Cowland: 5 million
- Milk produced per cow: 10L/days
- Number of days in a year: 300
- Domestic market: 5% of sales
- Domestic market share: 100%
- Average milk consumption per person: 150L/year

SUGGESTED CALCULATION

**** if the interview is progressing slowly, skip this estimation and give the number of cows of 5 million, then move straight to part 2 after reading the prompt below****

This is an estimation problem – the candidate should recognize the need to size the herd using suitable assumptions, provide the estimation data only if the candidate asks.

Total annual domestic consumption:
[Milk consumption per person]*[population of NZ]
= 750 million L/year
Cows required for domestic consumption:
[Annual dom. Cons.]/([Daily pro./cow]*[days in a year])
= 250,000 cows
Total cows:
[domestics cows]/[% of market]
= 5 million cows

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

COW EMISSION ANALYSIS

Knowing that there are 5 million cows in the MIC herd and the average life of a dairy cow is 5 years. **Calculate the total cost of replacing the herd and the total emissions saved from this replacement.**

- The old breed cost $2000 and the new breed costs $2500 to purchase
- The old breed emits 2.5 ton/year and the new breed emits 33% less GHG

SUGGESTED CALCULATION & TAKEAWAYS

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Cost	[1 million cows] *[$500/cow] = $500 million	[1 million cows] *[$500/cow] = $500 million	[1 million cows] *[$500/cow] = $500 million	[1 million cows] *[$500/cow] = $500 million	[1 million cows] *[$500/cow] = $500 million
GHG ton reduction	[1 million cows]* [0.33*2.5t] Or [12.6million tons]* [33%]/[5/1] = 0.825 mil tons	[2 million cows]* [0.33*2.5t] Or [12.6million tons]* [33%]/[5/2] = 1.65 mil tons	[3 million cows]* [0.33*2.5t] Or [12.6million tons]* [33%]/[5/3] = 2.475 mil tons	[4 million cows]* [0.33*2.5t] Or [12.6million tons]* [33%]/[5/4] = 3.3 million tons	[5 million cows]* [0.33*2.5t] Or [12.6million tons]* [33%]/[5/5] = 4.125 mil tons
% GHG reduction	4.125%	8.25%	12.375%	16.5%	20.625% (~21%)

Candidate can calculate only Year 5 as this is the final number required but must check that the annual budget is not exceeded.

Candidate should conclude that this is approximately halfway to our goal, spending 67% of our budget.
Next should look at reducing emissions from production.

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

PRODUCTION EMISSIONS ANALYSIS

What are some ways that the GHG emissions can be reduced during the production phase?

BRAINSTROMING SAMPLE

**** if the interview is progressing slowly, skip this brainstorming and move straight to part 2 after reading prompt 2 on this page****

This brainstorm is a chance for the candidate to be creative. No structure is superior but looking at options split between processes and transportation is one way to go. Keep pushing until you are satisfied with the ideas generated.

PROCESSES	TRANSPORTATION
Alternative power sources (all renewable)	Larger trucks (i.e. less GHG/L transported)
Carbon capture of emissions	Electric vehicles
More energy-efficient processes	Shorter routes of transportation
R&D into different ways to process milk	Regular maintenance to increase efficiency
Outsource production	Outsource transportation
Shutdown inefficient plants	

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

PRODUCTION EMISSIONS ANALYSIS

MIC has been looking into different ways to reduce GHG emissions in both processes and transportation and they have identified these options (show Exhibit 2).

CALCULATION AND TAKEAWAYS – EXHIBIT 2

This exhibit is intentionally challenging to understand, point the candidate towards the footnotes if they are struggling to understand the meaning of each column.

Key insights from Exhibit 2:

- Conversion to renewable energy has the largest emissions savings (potential reduction of 14% of GHG) and can be completely replaced within the 5-year period
- Replacing sterilizing units will only reduce emissions by 4% total and will take 20 years to carry out
- The other processes are also not cost-effective and should be written off straight away
- Transportation is a cost-effective method of GHG reduction which can be completed within 5 years and will reduce emissions by 5% total

	COST PER YEAR	TOTAL COST (5 YEARS)	GHG REDUCTION PER YEAR	TOTAL GHG REDUCTION (5 YEARS)
Renewable energy source	$150 million	[$150m] * [5years] =$750 million	[25%]*[80%]*[70%] *[20%]= 2.8% (0.56 mil tons)	[2.8%] * [5 years] = 14% (2.8 mil tons)
New Sterilizing Process	$100 million	[$100m] * [5years] =$500 million	[25%]*[80%]*[20%] *[5%]= 0.2% (0.04 mil tons)	[0.2%] * [5 years] = 0.8% (0.2 mil tons)
Transport electrification	$50 million	[$50m] * [5years] =$250 million	[25%]*[20%]*[100%]*[20%]= 1% (0.2 mil tons)	[2.8%] * [5 years] = 5% (1 mil tons)

The candidate should conclude that conversion to renewable energy and electrifying the transport fleet will be the most efficient costing $200m/year and reducing the GHG emissions by 19% in total by year 5

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

EXHIBIT 2 - ALTERNATIVES TO REDUCE GHG EMISSIONS OF MIC

	PROPOSED CHANGE TO PRODUCTION	TOTAL % REDUCTION OF EMISSIONS[1]	# OF UNITS[2]	MAX. % ANNUAL UNIT REPLACEMENT[3]	ANNUAL TOTAL COST OF MAX REPLACEMENT[4]
Process	Renewable energy source	70%	10	20%	$150m
	New Sterilizing Process	20%	20	5%	$100m
	New Packaging process + material	2%	50	20%	$50m
	Other	0.1%	500	10%	$1m
Transport	Electrification of fleet	100%	500	20%	$50m

1 % of reduction in GHG emissions that the process or transportation will emit, based on the current emissions shown in Exhibit 1, once 100 % of the units have been replaced

2 number of units MIC currently owns that can be replaced in a 1:1 ratio with the new alternatives

3 % of units that can be replaced annually (due to end of life requirements) e.g. a total of 2 units can be replaced per year for 'renewable energy source'

4 How much it will cost MIC annually to replace the maximum allowable units e.g. will cost MIC $150m to replace 2 units of 'renewable energy source' per year

Cowbon Emissions

Agriculture
Sustainability
Operations

Easy
Medium
Hard

RECOMMENDATION

Great, the CSO is about to join us, can you please provide her with a brief summary of what we have discussed today?

SAMPLERECOMMENDATION

The candidate should summarize that:

- We should replace the herd with the new breed to reduce emissions by 21% in year 5, costing $2.5 billion
- We should convert to renewable energy and replace our transport fleet reducing our emissions by 19% in year 5, costing $1 billion
- These actions will get us 90% towards our target of 45% reduction
- We have $50m/year of our budget left to figure out the last 10% which could include.... (any ideas that you have discussed e.g., carbon credits, hiring a lawyer to reduce potential fines, other emission reductions)

A great candidate would also briefly discuss any risks or next steps:

- Adaption to new technology
- Chance new breed has challenges
- Views from employees and farmers about changes
- Chance of lobbying government so the law is reversed
- Next steps: contact breeders to make sure they have enough cows, look for other reduction methods, etc.

OncoCo

CB21

PE / Pharmaceuticals
Profitability
M&A

Easy
Medium
Hard

PE / Pharmaceuticals
Profitability
M&A

Easy
Medium
Hard

OncoCo

PROMPT

A private equity client owns a specialized pharma manufacturer called OncoCo which focuses on cancer treatments. OncoCo is not only profitable, but also experienced steady growth in the past years. Hence, the PE fund was surprised when the management board of OncoCo stated that they expect declining profits in the future. OncoCo's management board has also suggested, to cushion the decline with the acquisition of an additional asset. In particular, OncoCo's board received the opportunity to purchase the commercial rights of liquid morphine.

The PE fund has asked us to figure out why a decline is expected and whether they should move forward with the acquisition.

CLARIFYING POINTS (if asked)

- **PE target:** EBITDA margin > 20%
- **Liquid Morphine:** Used to treat severe pain, for example after an operation or a serious injury, or pain from cancer or a heart attack. Morphine liquid is fast acting and used for pain which is expected to last for a short time, e.g. when you start taking other forms of morphine to help find the right dose. Usually morphine is prescribed by pain specialists
- **Commercial rights** means that OncoCo will be able to produce and sell the product under its name. Often pharma companies purchase existing stocks and have the opportunity to either renegotiate the contracts with raw material suppliers or continue under existing conditions
- **Declining revenue:** expect a drop in revenues of 100 m€
- **BM**: OncoCo's income stems from one drug to treat a very niche, late stage cancer
- **Price (treatment costs) per year:** 10 k€
- **Location:** EU

CASE GUIDANCE

- Ask **value added question** : Its is a complex industry, candidates might feel tempted to ask unimportant questions because they don't know the industry
- Don't **boil the ocean** : Despite being a PE case, we don't get into the business model of the PE itself and despite being an M&A case, we focus only on the target product (asset in pharma language).
    - Acquisition price is irrelevant in this case
- **Case duration** : ~35 mins

PE / Pharmaceuticals
Profitability
M&A

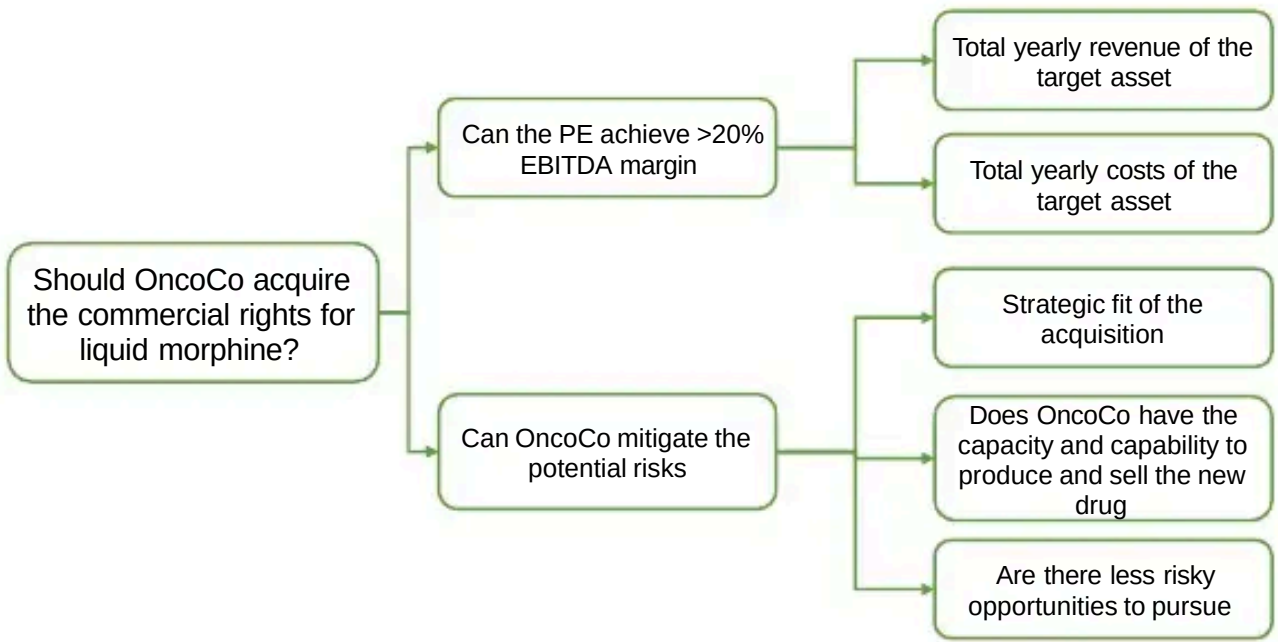
Easy
Medium
Hard

OncoCo

SAMPLE STRUCTURE

The main focus of the case is the acquisition, hence the structure should emphasize the deal over the decline in revenue (or even exclude). Creating two structures to answer both business questions is totally fine as long as the M&A structure is more thorough. Either way, both questions have to get answered. Ideally, the candidate starts with the OncoCo's current business first before diving into the acquisition.

Simplicity and specificity wins!



PE / Pharmaceuticals
Profitability
M&A

Easy
Medium
Hard

OncoCo

Profit analysis of OncoCo

Begin by investigating why profits are expected to fall and hand out **Exhibit 1: profit analysis OncoCo.** The candidate can spend a few moments to digest the information but is expected to comment on the insights fairly quickly as all the math can be done mentally.

Expected takeaways from Exhibit 1

A good candidate will mention:

- Expected drop in revenue in 2022? **100 m€, loss of 2/3**
- Price of the drug? **10 k€**
- Profit in 2020? **40 m€**

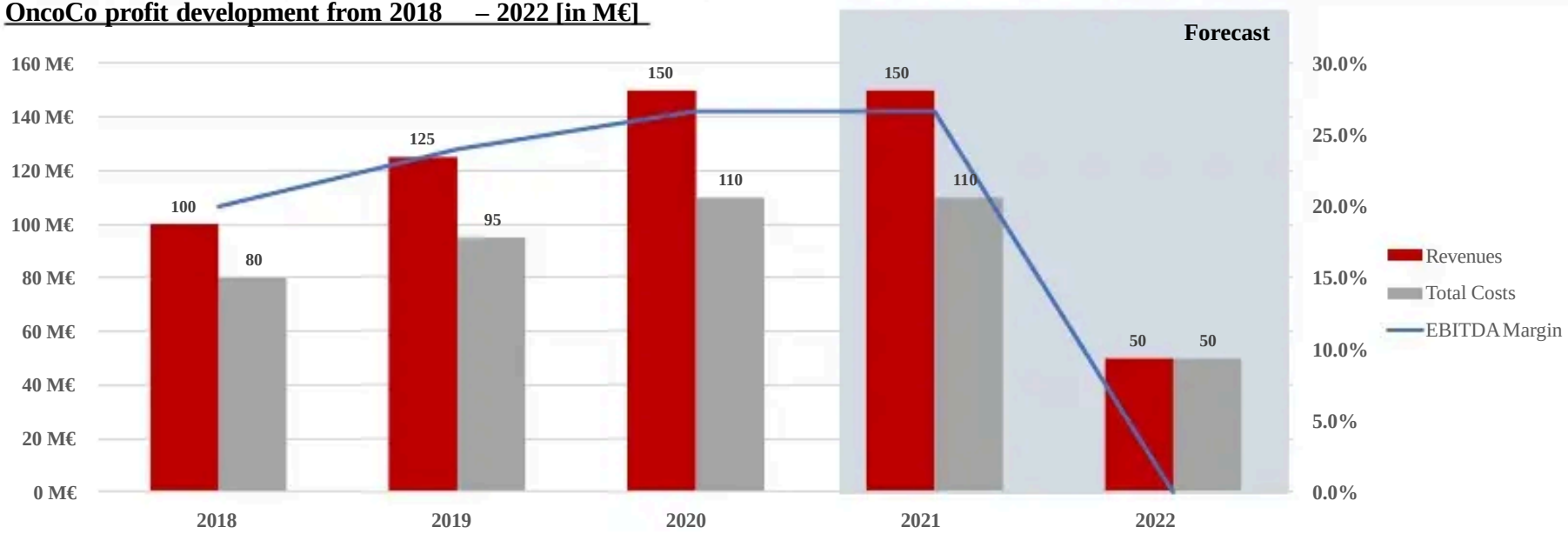
A very good candidate will mention:

- EBITDA margin is not only **>20% (26.7%)** but also very high in general in 2020 & 2021
  - However, margin drops to **0% in 2022**
- Possible reasons for the expected price drop?
  - E.g. new entrant of a better performing drug, no longer owning the commercial rights to sell it in certain geographies
  - Real answer: patent expiration and with that entry of generics
- Once the candidate understood why the decline is happening, he / she should suggest to look into the acquisition next, e.g. getting a better understanding of the morphine market

OncoCo

EXHIBIT 1 – Profit analysis

OncoCo profit development from 2018 – 2022 [in M€]



	2018	2019	2020	2021	2022
Volumes [in K]	10	12.5	15	15	5

PE / Pharmaceuticals
Profitability
M&A

Easy
Medium
Hard

OncoCo

Market analysis of liquid morphine

Continue with the analysis of the morphine market and hand out **Exhibit 2: morphine market.** The candidate is expected to request the missing information proactively. This slide has some more complicated calculations, hence the candidate can spend more time on the math part. Ensure that the candidate receives all the quantitative information mentioned and bolded below (ask questions if the candidate does not pro-actively requests it).

Expected takeaways from Exhibit 2

A good candidate will mention:

- Some data is missing, ideally the candidate asks for the total revenue of the morphine market. **6,25 bn€**
- Quantify and comment on the fact that liquid morphine is a rather small part of the morphine market. **8% (500m€)**
- The target assets represents the category leader with a share of **25 %** of the liquid morphine market **(125 m€ revenue)**

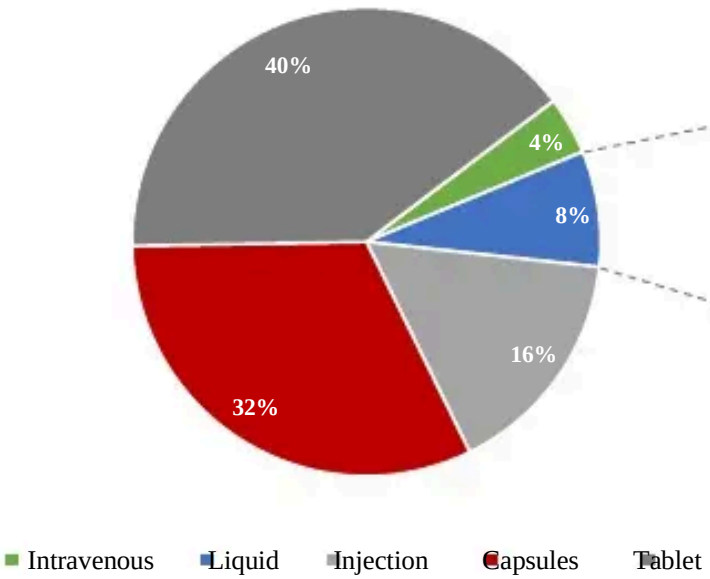
A very good candidate will mention:

- Comment more on the fact that the target is category leader: Most likely originator & the strongest brand and hence can influence the market
- Asks for the average EBITDA margin of the industry: **20%**
  - With this information, the candidate should directly mention that it meet's the PE fund's target margin of 20%, but also highlight that profit is lower than the profit from OncoCo's current product **(25 m€, 15 m€ less)**
  - An outstanding candidate will calculate the market share required to achieve the same profit (40 m€), suggested approach:
    - Required revenues: **40 m€ / 0.2 margin = 200 m€ revenues**
    - Required market share: **(0.25+x)500=200** → x = 0.15, required market share = **40%**
  - The candidate should finish by arguing whether achieving 40% is possible. There are good reasons for and against it, e.g.: Adding 15% more market share is doable as target asset is the category leader and there seem to be many very small players that could be consolidated.
- Either way, the candidate should request more details on the target asset's performance or company

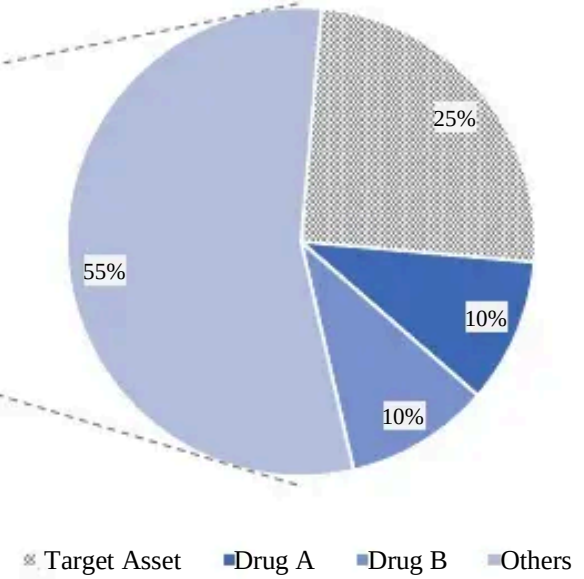
OncoCo

EXHIBIT 2 – Morphine market

Morphine market by formulation in 2020 [in % of sales]



Liquid Morphine market in 2020 [in % of sales]



OncoCo

Profit analysis of target asset

The candidate might wants to rush and analyze competition or other external factors. However, we still know very little about the actual target and should investigate further, hand out **Exhibit 3: profit analysis of target asset.** The chart looks very similar to the first exhibit, but the difficulty here is to identify the differences correctly (and not fall for the traps).

Expected takeaways from Exhibit 3

A good candidate will mention:

- Profit has decreased after 2017, but it looks like the company was able to get back on track and previous performance
- Since we talked about price before, the candidate should calculate it here too. Exhibit 1 and 3 show **[volumes in K]** but given the figures in exhibit 3 are in thousands, a careless candidate might ignore it and compute 10k as result. Correct answer, **10€**

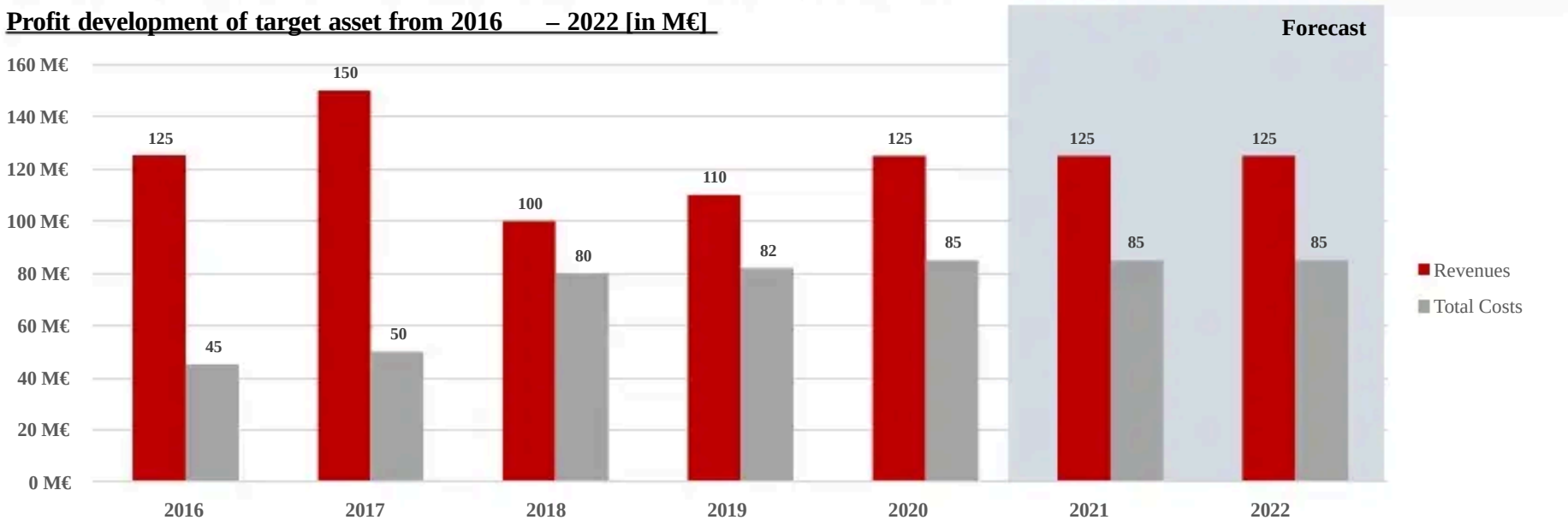
A very good candidate will mention:

- Suggestions as to why profit decreases and identifies possible explanations for the decrease in revenues and increase in costs:
  - **Revenues down:** competitor entry, stock-outs, scandal that led to bad perception of product
  - **Costs up:** production issues, investments in new technology directly related to product, legal costs
  - **Correct Answer:** Opioid crisis -> physicians used morphine much less (revenues down) and had to settle several legal lawsuits (costs up)
    - However, morphine sales recovered as it is a basic medicine, but manufacturers has to stick to tighter guidelines (Fixed costs up)
- Realize that this is a mass product which requires a total different business model than OncoCo's existing ones
- The candidate should end this slide by computing the EBITDA margin **(32%)** and highlight that: (i) it is higher than market average, presumably based on higher price since originator or economies of scale, (ii) margin meets the PE funds requirements
- Despite meeting PE fund's target margin, the candidate should suggest to assess more qualitative aspects of the acquisition

OncoCo

EXHIBIT 3 – Profit analysis target asset

Profit development of target asset from 2016 – 2022 [in M€]



	2016	2017	2018	2019	2020	2021	2022
Volumes [in K]	12,500	15,000	10,000	11,000	12,500	12,500	12,500

OncoCo

BRAINSTORMING QUESTION

What other aspects than the EBITDA margin should the PE fund consider, before acquiring the commercial rights? Ideally, this part is covered by the rest of the candidates framework and hence the candidate can quickly come up with a structure. Either way, a very good candidate will be able to structure the points and have a meaningful discussion with the interviewer about the pros and cons of each point. The discussions does not need to capture all points mentioned below and should not last longer than 5 minutes.

SAMPLE ANSWERS

Strategic	Operational	Other opportunities
Is pain medicine a strategic reasonable addition to the portfolio? + Diversification - Different business model	Is OncoCo able to serve a mass market? + "Simple" product that does not require a lot of marketing efforts - Likely a need to build up production facilities and sales team from scratch	Lawsuit to extend patent + Requires little "extra" effort since it can be outsourced - High uncertainty until lawsuit is settled (which probably will take some time)
Does OncoCo want to get associated with Opioids and their negative reputation? + Morphine has the "best" reputation - Can harm the other product as well, image issues	Are there any synergies in our production facility we can use to reduce costs? + Lots of spare capacity starting 2022 - Totally different production process and magnitude	Change formulation + Allows to extend patent for another 5-10 years - Likely too late as R&D phase has to be initiated
Switch from specialized product with few patients to mass products with many patients + Enter a larger market - Management might not know how to play in that market		Acquire another asset + Identify a more similar asset - Assessment has to be repeated

PE / Pharmaceuticals
Profitability
M&A

Easy
Medium
Hard

OncoCo

RECOMMENDATION QUESTION

We have the Zoom call with the PE fund in 3 minutes, could you please present our findings?

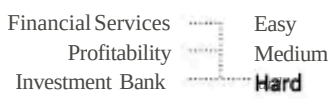
SAMPLE RECOMMENDATION

There are good reasons for and against an acquisition. A good answer answers the initial questions first and then presents the findings:

[Recommendation] OncoCo's board expects a 2/3 drop in revenues because of the loss of exclusivity of its only product and suggests to acquire the commercial rights of liquid morphine to cushion the profit decline. However, despite the attractive EBITDA margin of 32%, we do not recommend to proceed with the acquisition as the risks outweigh the potential financial benefits.
[Risks] In particular, we think that OncoCo's current business model is in stark contrast to the ones of the target asset, making it very questionable whether the PE fund will be able to achieve the financial return without heavy investments in their production facilities and sales team. Further, it has to factor in the negative reputation of Opioids that might affect OncoCo's enterprise value in the long term.
[Next steps] We propose to look for another asset that fits better to OncoCo's current portfolio, potentially within the same therapeutic area (Oncology).

Investment Bank Spin-off

By CB16



Financial Services
Profitability
Investment Bank

Easy
Medium
Hard

Investment Bank Spin-off

PROMPT

Your client is a leading retail bank in a South American country, with over 3,000 branches across the country. In addition to the retail business, the bank also has an Investment Banking (IB) unit, which acts as an intermediary and/or advisor when corporations want to engage in complex financial transactions (for example M&A, raising capital, initial public offering (IPO), etc.).

The IB unit of this bank is headed by a Vice President who reports to the bank's CEO.

This IB VP hired you to evaluate whether the IB should spin off from the retail bank, becoming fully independent from the conglomerate.

CLARIFYING POINTS (if asked)

- The main reason behind the VP's request is financial – i.e. end goal is additional profits for the IB
- IBs operate on a fee-based model. They are remunerated as a percentage of the total transaction in which they facilitated for the company (e.g. 2% fee of a USD 100M transaction means USD 2M in revenues for the IB)
- She suspects that even though being attached to the retail bank provides benefits (e.g. shared systems and services, access to clients), the IB unit is unable to tap additional sources of revenues (e.g. through Joint Ventures with other Investment Banks)
- She is also worried about the bureaucracy imposed by the conglomerate, which slows down relevant (and sometimes urgent) decisions for the IB unit
- For simplicity, you can assume that there is no discount rate, time value of money and required NPV calculations for the case
- Considerations regarding the momentum of the Investment Banking industry are not relevant for this case

CASE GUIDANCE

- This is an interviewee-led case and the candidate should always drive the case and suggest the next course of action
- This is a profitability case on its essence, nevertheless it touches significantly on qualitative aspects of the Investment Bank spin off
- It is not expected any prior knowledge of the Investment Bank industry, due to the sector's specificity, and candidates with previous knowledge should not benefit from it in this case

Financial Services
Profitability
Investment Bank

Easy
Medium
Hard

Investment Bank Spin-off

STRUCTURE GUIDANCE

A good structure would touch on:

- The financials of the spin off: (i) additional revenues (ii) expected higher costs and (iii) potential lost revenues due to previous cross-sold customers from the retail bank
- Considering break even period, NPV and other metrics related to the financial return of the spin off is a nice plus of the structure (although not used for case's calculations)
- Consideration of several qualitative aspects regarding the newly created IB is crucial: new IB strategy, legal entity, culture, organizational structure, operational model, governance, positioning against competitors, etc.

SAMPLE STRUCTURE

- Revenues impact: impact on transaction volume and average fee by business line (M&A and Advisory, Sales, etc.). When the candidate asks for data on revenues, please show them Exhibit 1
    - The candidate is not expected to know that revenues for an Investment Bank are generated, in general, based on a fee of the total transaction. The information should be given to the candidate if he/she does not mention this aspect
- Cost impact: in general, costs are expected to grow because the Investment Bank benefitted from sharing structure and services with the retail bank conglomerate. When the candidate asks for data on costs, please show them Exhibit 2
- Qualitative aspects of the spin off:
    - IB Strategy
    - Governance
    - Organizational structure
    - Operational model
    - Capabilities to become standalone
    - Competitive landscape
    - …

Financial Services
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Investment Bank

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Investment Bank Spin-off

QUANTITATIVE ANALYSIS

Revenues: when the candidate asks for data on revenues, show them Exhibit 1 and ask for insights. It will be then expected that the candidate starts the revenue calculation

- The fastest way of calculating is to compute the revenue differential by the difference of market share between the current and expected scenario.
- A slower calculation would be to calculate the current revenues, expected revenues and subtract one from the other. One benefit of using this approach is that the expected revenues will be used for the Costs calculations

Costs: likewise for revenues, show Exhibit 2 and ask for insights. Then, the candidate should be prompted for starting the calculation (please refer to Exhibit 2)

- It is expected that the current cost structure of the IB will change because it benefitted from shared services with the retail bank (e.g. IT, rent, etc.). The IB would now have to, for example, rent a building, hire an IT provider and other extra expenditures that were not previously needed
- Here the candidate should make fair assumptions on what is the fair share of cost items (as % of revenues) based on benchmarks of Investment Banks similar to our client, shown in Exhibit 2 (which are separated standalone Investment Banks)

SOLUTION

Revenues:

- Current revenues: Transaction market * Average fee * Current market share = 500M * 5% * 10% + 600M * 4% * 35% + 400M * 8% * 20% + 1,500M * 2% * 5% = USD 18.8 M
- Expected revenues: : Transaction market * Average fee * Expected market share = 500M * 5% * 20% + 600M * 4% * 25% + 400M * 8% * 30% + 1,500M * 2% * 15% = USD 25.1 M
- Thus, incremental revenues of USD 25.1 – 18.8 = 6.3 M - One good insight is that the USD 6.3M revenue increase is precisely a 1/3 increase in total revenues

Costs: the items that the client, when associated with the Retail Bank, paid apparently less than peers were IT and systems, and Rent & Maintenance (likely due to shared services, premises and systems). For IT, the cost representativeness will increase from 1% to 5% of total revenues and Rent from 2% to 6%

- Current IT Costs: USD 200k ; current Rent & Maintenance costs: USD 400k
- New IT Costs = 5% * 25M = 1.25M ; New Rent & Maintenance costs = 6% * 25M = 1.5M → Incremental costs of USD 2.75M – 600k = 2.15M

Profit: in summary, the new bank will have a greater profit of USD 6.3 – 2.15 M = USD 4.15 M (meaning that financially speaking, it makes sense to spin off)

Investment Bank Spin-off

EXHIBIT 1– CURRENT AND EXPECTED REVENUES BY BUSINESS LINE

Business Line	Total transaction market	Average fee [1]	Current market share	Expected market share [2]
Equity Capital Market (ECM)	USD 500 M	5%	10%	20%
Debt Capital Market (DCM) [3]	USD 600 M	4%	35%	25%
M&A and advisory	USD 400 M	8%	20%	30%
Sales and trading	USD 1,500 M	2%	5%	15%

1. Revenues of Investment Banks are generally calculated as a standard fee that is a percentage of the total value of a determined transaction (e.g. an IPO)
2. After the spin off from the retail bank. Estimates provided by the client
3. The market share in DCM is expected to drop because the Retail Bank cross-sells DCM deals to the Investment Bank, which will not happen if they are separate

Investment Bank Spin-off

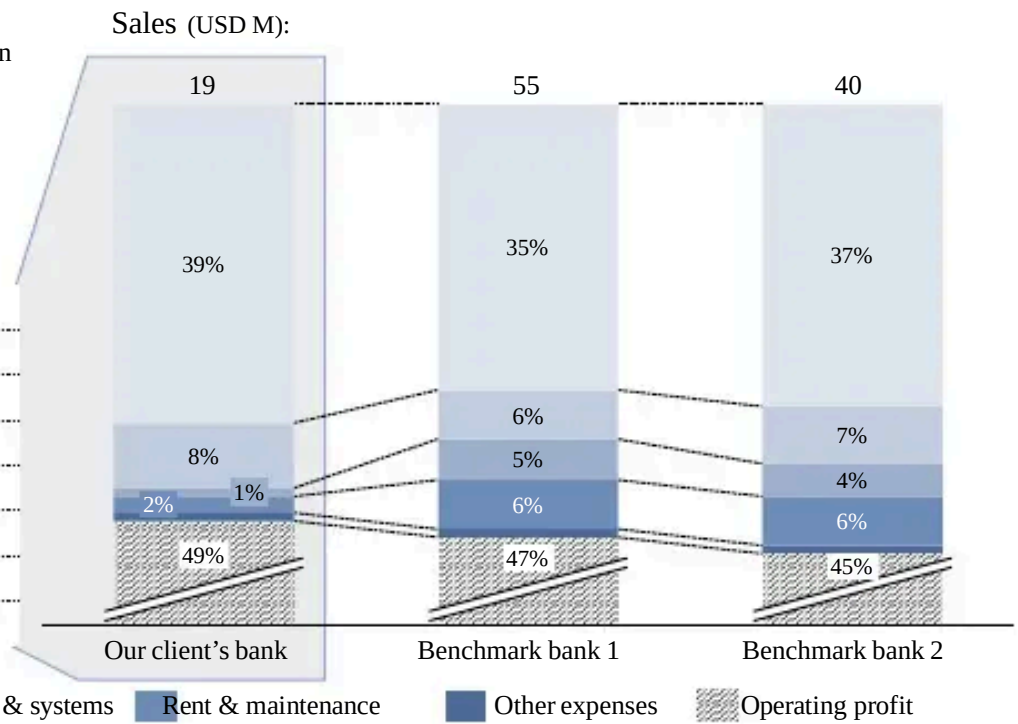
EXHIBIT 2– INVESTMENT BANKS COST STRUCTURE BENCHMARK (P&L)

The two benchmarked banks are comparable to our client's bank in operations, sales mix, geography and other aspects relevant to the P&L

Both banks are purely standalone IBs, with no Retail Bank unit

Our client understands that front office and back office staff will not change their representativeness on total costs with the spin-off

P&L Summary	USD'000	% sales
(+) Sales	18,800	100%
(-) Personnel - Front office	7,300	39%
(-) Personnel - Back office	1,500	8%
(-) IT and systems	200	1%
(-) Rent & Maintenance	400	2%
(-) Other expenses	150	1%
Operating profit	9,250	49%



Financial Services
Profitability
Investment Bank

Easy
Medium
Hard

Investment Bank Spin-off

BRAINSTORMING QUESTION

Aside from financial considerations, what are other pros and cons of spinning off the Investment Banking unit from the rest of the conglomerate?

SAMPLE ANSWERS

Here there is no right answer, but the idea is rather to test the candidate's creativity on this type of business situation

Pros

- Reduced bureaucracy with no formal ties with conglomerate
- Greater organizational "identity" - new IB culture
- Possibility of more flexible work arrangements typical of Investment Banks
- Openness for engaging with other institutions (for example establishing a Joint Venture with another Investment Bank)

Cons

- Increased costs (IT & systems, Rent & maintenance) end up higher than expected
- Cross sell with retail bank is significantly reduced or clients leave the IB bank after spin off non mapped reasons
- In the future, the Retail Bank may create another IB unit (new competitors)
- Lack of strategic perspective previously provided by other areas of the bank
- Limitation on talent transfer between bank areas
- Legal aspects not considered

Financial Services
Profitability
Investment Bank

Easy
Medium
Hard

Investment Bank Spin-off

RECOMMENDATION QUESTION

Our client just messaged you saying that she is now free and would like to hear your current viewpoint on the project. What is your recommendation?

SAMPLE RECOMMENDATION

Being concise, structured, and mentioning only relevant points mentioned in the case are crucial for a good recommendation.

Based on the financial calculation, the recommendation should be to pursue the spin off. When explaining the reasoning, the candidate should bring critical numbers calculated during the case

It is also important that the candidate mentions the pros, cons and risks associated with the recommended spin off

A great plus from the recommendation would be to suggest potential next steps for implementing the spin off

SPECIAL THANKS

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