
CASEBOOK

UFRJ CONSULTING CLUB

SECOND EDITION - 2022



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UFRJ CONSULTING CLUB

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1 Industry Overview

2 Types of case

3 Tips for case resolution

4 Quantitative analysis

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Chocolate industry



Industry overview – Chocolate industry



Value chain

PRIMARY PRODUCTION

- Crop, cultivate and harvest cocoa beans
- Ferment and dry the product
- Process cocoa beans

COMMERCIALISATION

- Trade and transport cocoa (liquor, butter or powder)
- Clean and storage the feedstock

MANUFACTURING

- Mixing cocoa with other ingredients
- Refining & processing
- Developing consumer recipes

DISTRIBUTION

- Marketing & retail
- Export and import
- Distribution to consumer



INFRASTRUCTURE

Site selection, land preparation, use of agricultural machines and pest control



TECHNOLOGY

Large scale, process automation, mechanical processes and biological transformations



HUMAN RESOURCES

Knowledge of recipes involving cocoa and its value chain, development of new products



PROCUREMENT

Harvesting or buying raw material and other inputs (machines and seeds)

Industry overview – Chocolate industry



Introduction

- The cocoa sector is an **important source of livelihoods**, providing **revenue** for many farmers across the countries;
- The "beans" are the **essential ingredient** for chocolate and cacao products, since products received from cocoa beans are not only used in chocolates, but also in a wide range of food products.



Profitability

- **Revenue:**
 - Selling feedstock (cocoa powder, liquor or butter);
 - Selling chocolate and its derivatives (candy, desserts, milk chocolate);
- **Costs:**
 - Land preparation;
 - Machines;
 - Labor;
 - R&D for recipes.



Clients

- There are **no main customers** in this industry, as there are both cheap and expensive chocolates;
- Can sell to 2 different types of clients:
 - B2B:** sells manufactured cocoa to another company in a different market position;
 - B2C:** distributes and sells chocolate recipes to final consumers.



Entry barriers

- **Larger firms** have the **knowledge and the scale to operate at lower costs** than most new potential market entrants do;
- Many consumers are **brand loyal**. Favorite chocolate brands are developed as a preference at a young age and that is hard to shake;
- The major players are continuously focusing on product innovation with the launch of different types of chocolates across the globe.





Current Market

- The industry has **well integrated vertically**, expanding activities from sustainable sourcing beans to producing cocoa-based products;
- Chocolate is the leading flavor in the new launches of beverage, bakery and confectionery items.
- The global chocolate market has the presence of both regional and international players.
- Wide range of chocolate varieties during occasions like **Easter** and **Christmas**.

Risks

- Cocoa bean production faces a number of social and environmental sustainability risks: forced and child labor, unfavorable labor conditions, conflict over land rights, and the cocoa production in protected forests which needs to be addressed;
- It is very susceptible to a **drop in consumption** in economic crisis;
- Production is concentrated in Africa, **requiring logistics** to cover this distance;
- **Many substitutes**, from crunchy chips to salty peanuts.

Trends & Perspectives

- The cocoa bean market is projected to grow at a **CAGR of 4.4% until 2026**;
- Consolidations in cocoa processing over the past few years have been driven primarily by the **boom in commodity prices**.
- **Growing demand** for organic, vegan, sugar-free, and gluten-free chocolates.
- The inflating disposable incomes and improved living standards of consumers are also anticipated to aid the market growth.

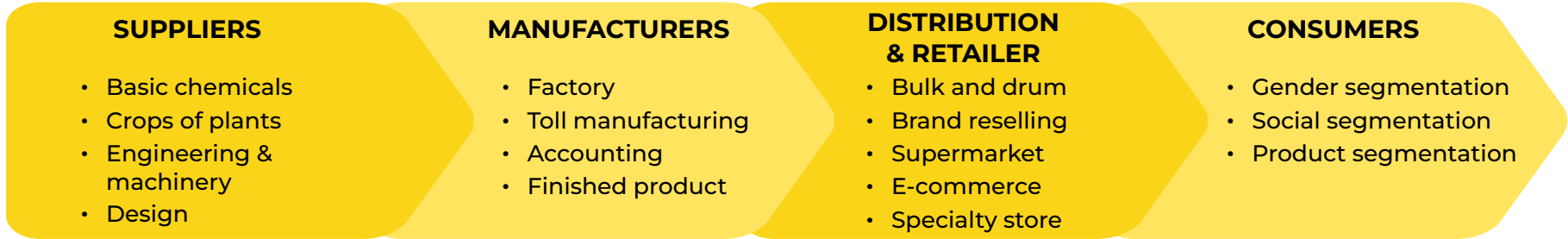
Beauty industry



Industry overview – Beauty Industry



Value chain



INFRASTRUCTURE

Cost of general management, planning, finance, legal and government affairs



TECHNOLOGY

Process automation, Research and Development, product testing and adjustment of components



HUMAN RESOURCES

Activities related to recruiting, development and compensation of employees



PROCUREMENT

Purchasing commodities, dyes, chemicals and other inputs, like machinery



Introduction

- The use of these products is associated with more healthy lifestyles and improves self-esteem;
- Cosmetics include deodorants, fragrances, makeup, shampoo, soaps, sunscreens and toothpaste.



Competitors

- The cosmetic industries are becoming very innovative and creative in providing unique quality products in the market to earn an advantage over the competitors.
- **Mass retailers** are gaining **more market share** than consolidated and new brands;



Research

- The cosmetic industry is driven by **science and research**. Moreover, cosmetic companies spend **5%** of their revenue on research;
- More than **150 innovation facilities** have been established in the world to carry out research related to cosmetics. These centers focus on **product development, market research** and **legal and regulatory compliance**.



Products

- **Skin care** and **hair care** compose the best selling products, detaining sales of approximately **48% of the total revenue**;
- Other beauty categories have significant participation on the market: cosmetics, perfumes, personal hygiene and others.



Industry overview – Beauty Industry



Value chain

ESG

- It is estimated through direct, indirect or induced employment, that the European cosmetic industry supports over **2 million jobs** (0,25% of the total European population);
- Moreover, the number of females employed supersedes males with the workforce providing **61% females** compared to **39% males**;
- Some companies dedicate constant attention to **reducing the environmental footprint** of its production processes, both in the management of energy and water sources, and in waste reduction.

Risks

- Within the color cosmetics industry (makeup, nail polish), **mass retailers are gaining consumers**, while prestige retailers are not;
- A lot of companies do **greenwashing**, as the rule says that only 1% of a product's ingredient has to be organic in order to be listed as organic;
- The majority of the ingredients in cosmetic beauty products **do not need regulation**;
- Under idealized beauty, unrealistic body expectations and pressures can lead to serious **mental health disorders** and **negatively impact nutrition**.

Trends & Perspectives

- The cosmetics industry has an annual growth rate of **4.75%**;
- **Men are also a rising segment** for the beauty industry. The industry has seen more men purchasing color cosmetics. Wellness and sustainability will also continue to trend;
- **Clean beauty is growing** around the world. As brands launch and innovate in this area, consumers will react and buy;
- The **online channel** grew 5.6% in 2020 and are projected to make up **48% of all beauty sales** by 2023.



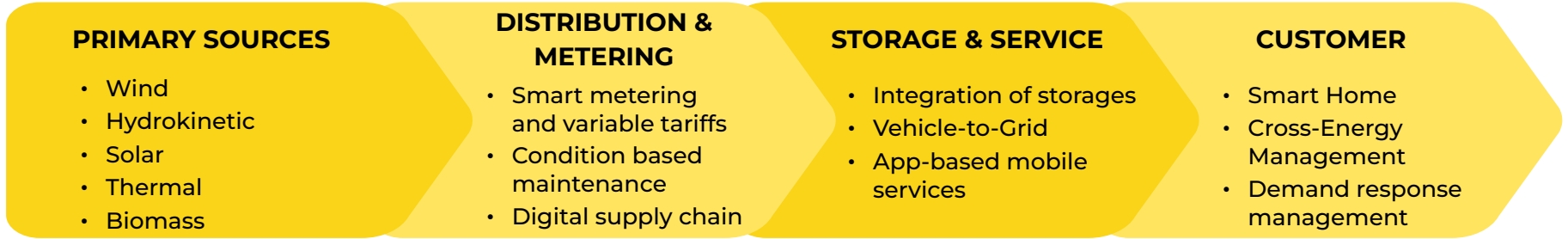
Renewable energy



Industry overview – Renewable energy Industry



Value chain



ENERGY FORMS

Mechanical flow, radiation, thermal heat, chemical and nuclear binding



SOURCES FOR STORAGE

Lakes (pump/flood), batteries (charge/discharge) and hydrogen (fuel cell – electrolysis)



TECHNOLOGY

Demand for high technology with high costs, specialized labor and logistics costs



RESEARCH & DEVELOPMENT

Energy innovation, process and materials technologies, high performance computing



Introduction

- The renewable-energy industry is the part of the energy industry that focuses on **new and appropriate renewable energy technologies**;
- **Solar** energy, **geothermal** energy from heat inside the earth, **wind** energy, **biomass** from plants and **hydropower** from flowing water are some examples.



Profitability

- **Revenue:**
 - Selling the main product used as an energy source;
 - Maintenance;
 - Indirect marketing.
- **Costs:**
 - Infrastructure;
 - Providing electricity;
 - Chemicals;
 - Specialized labor;
 - R&D for new processes and materials.



Drivers

- **The concern about the reduction of greenhouse emissions** increases the search for energy security, along with the aversion to traditional nuclear power;
- **Consumers themselves** are looking for ways to become 100% renewable in the energy;
- New consumer demand for renewables is encouraged by a **steady decline in the overall costs of wind and solar**.



Policy

- Renewable energy **tax credits and subsidies**, **feed-in tariffs**, and **competitive auctions** have all helped reduce costs and spur deployment;
- Governments are looking forward to **invest in research and development** in order to promote innovation in renewable energy;
- Governments **should set targets and requirements** for the use of renewable energy.





Current Market

- Annual renewable **capacity additions increased 45%** to almost 280 GW – the highest year bt year increase since 1999;
- Renewable energy collectively provides around **7% of the world's energy demand**;
- **Brazil** is among the 3 largest markets for **ethanol** worldwide, along with **United States and India**;
- Both of these renewable sources (solar photovoltaic and wind) are now **cost-competitive** with fossil fuel electricity.

Risks

- It suffers a lot from **supply chain constraints**, increased shipping costs, and rising prices for key commodities;
- Some **require operating experiences** in certain climatic conditions, before the performance can be optimized;
- Their lack of cost competitiveness means that these projects are generally dependent on a supportive regulatory framework to proceed.

Trends & Perspectives

- The market is projected to reach \$1,977 trillion by 2030, growing at a **CAGR of 8.4% from 2021 to 2030**;
- Concern for climate change and support for environmental, social, and governance (ESG) considerations grow and **demand for cleaner energy sources from most market segments are accelerating**;
- Renewables are set to account for almost **95% of the increase in global power capacity** through 2026, with solar PV alone providing more than half.

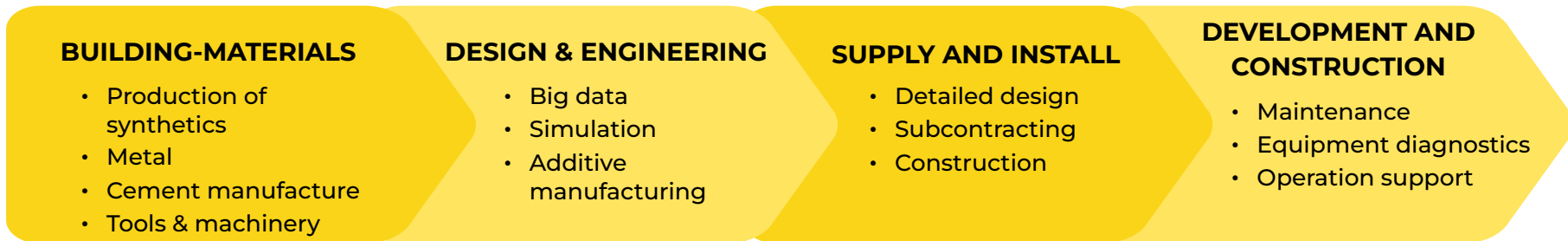
Civil construction



Industry overview – Civil construction Industry



Value chain



INFRASTRUCTURE

Machinery and specific tools, 3D printing of entire units, digital construction



TECHNOLOGY

Process automation in production and on construction sites, advanced analytics and artificial intelligence



HUMAN RESOURCES

Specialized engineers, labor specializing, loyalty bonus, personal development plan



STRATEGIC PLANNING

Quality assurance and control, source inspection, transportation logistics and expediting



Introduction

- It is a branch of Civil Engineering involved with the design, maintenance and construction of both natural and physically built environments such as roads, railways, buildings, water reservoirs, subdivisions, airports, bridges, sewer systems, tunnels and dams;
- They are involved in the planning, creation and designing the infrastructure.



Tasks

- **Liaising** with governments, clients and other professionals;
- **Studying, evaluating and investigating** the land and building sites suitable for the possible creation of infrastructure;
- **Creating infrastructure plans** and having these approved by governing bodies and local authorities;
- **Supervising and monitoring** the construction of the infrastructure to ensure it matches the plan.



Entry barriers

- The first entry barrier is the **high project value** and a **high participation cost per project**, generating an elevated initial cost for a construction;
- The demand of management time is another entry barrier, because **it requires total employee dedication**;
- Also, the **lack of credibility and contacts** to make the projects happen are crucial, since you have to trust your partners to make such a big investment.





Opportunities

- A public-private partnership (P3) arrangement allows a state or a federal body to authorize a civil project that is managed and even **financed by private companies rather than public services**;
- Infrastructure improvements with little to no cost to local taxpayers: **private investors** are financing the work in exchange for repayment through a percentage of collected tolls;
- GPS-linked and geotagged photos and documents specify the exact placement of structures and access points for fewer costly mistakes during construction.

Problems

- Employees lack the **training and experience** to know all the rules or be able to identify hazardous situations on the jobsite;
- Increased project costs, delays in hitting contract milestones, interruptions of workflow, and not completing a project on time are some of the issues caused by poorly handled change orders;
- Incomplete drawings and poorly defined scope, design errors, unknown site conditions, poorly written contracts, unexpected increases in material costs, and poor project management are other risk factors common on construction projects.

Trends & Perspectives

- The global building construction market is expected to grow at a compound annual growth rate of **12.7%**. The market is expected to reach \$11,476 trillion in 2026 at a **CAGR of 11.7%**.
- Building construction companies are increasingly using **green construction techniques** to build energy efficient buildings and reduce construction costs. Green construction refers to the practice of using sustainable building materials and construction processes to create energy-efficient buildings with minimal environmental impact.

Mining industry



Industry overview – Mining



Value chain



MAIN METHODS

Underground, open surface (pit), placer and in-situ mining



WORKFORCE

Firstline supervisors and miscellaneous of extraction workers



TECHNOLOGY

Spatial data visualisation, geographic information systems, artificial intelligence, automated drones



POLICY

Legal conformity, health and safety for employees, environmental care, human rights

Industry overview – Mining



Introduction

- The mining industry consists of the search, extraction, beneficiation, and processing of naturally occurring solid minerals from the earth;
- These mined ores include **coal**, **metals** such as iron, copper, or zinc, and **industrial minerals** such as potash, limestone, and other crushed rocks;
- **Oil and natural gas** extraction is **not included** in this industry.



Stages

- The first stage is **extraction**, which includes blasting and drilling to loosen and remove material from the mine.
- **Materials handling** involves transporting the ore and waste from the mine to the mill or disposal area.
- **Beneficiation and processing** occurs at the processing plant, recovering the valuable portion of the mined material and producing the final marketable product.



Market Drivers

- Key markets include utilities, the primary metals industry, non-metallic minerals industry (glass, cement, lime), and the construction industry;
- Good government policies to provide **subsidies** and encourage **foreign direct investments (FDI)** support the mining industry are expected to drive the mining market growth;
- **Balancing** short term gains and long term value can drive sustainable cost reductions in the mining industry itself.



Profitability

- **Revenue:**
 - Ore (tons) x Grade (g/t) x Recovery x Payability x Metal Price;
 - Royalties.
- **Costs:**
 - Operating costs: Per ton basis (e.g., \$2.50/ton for mining);
 - Capital costs: includes initial and sustaining capital;
 - Changes in accounts receivable, inventory, and payable accounts;
 - Depreciation and taxes.





Current Market

- **Asia-Pacific** is the largest region in the global mining market, accounting for 71% of the market in 2020, followed by North America, accounting for 9% of the global market;
- The use of renewable energy is helping mining companies **reduce power costs** and **control emissions** in the mines;
- ESG represents one of the mining industry's most significant opportunities for long-term value creation, building trust and sustainable growth.

Risks

- **Commodity price** risk concerns reflect ongoing volatility;
- Community relations and social license to operate, strengthening in **ESG** agendas;
- **Environmental** risks, including new regulation;
- **Economic** downturn / uncertainty;
- Ability to **access** and replace reserves.

Trends & Perspectives

- The global mining market was \$1,642 trillion in 2020 and is expected to reach \$2,428 trillion in 2025 at a **CAGR of 7%**;
- The mine of the future will be **more productive** and extract minerals **more efficiently** due to the mass application of new technologies;
- Minerals are vital components of **renewable energy** tech;
- Companies estimates that, by 2025, machines will **replace more than 85 million jobs** currently done by people.

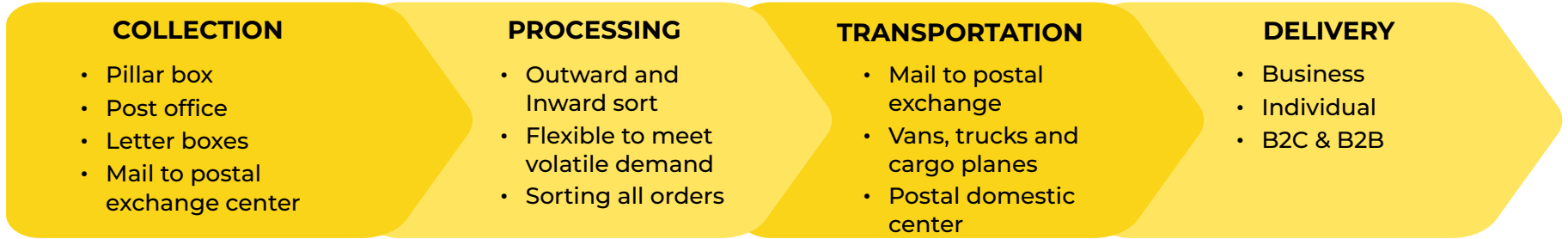
Postal services



Industry overview – Postal service Industry



Value chain



INFRASTRUCTURE

First-class mails, post offices, modern postal network, automated mail processing



TECHNOLOGY

Digital services, minimal waits, fully transparent process, near-immediate response times



HUMAN RESOURCES

Postal service clerks and mail sorters, processors, processing machine operators and mail carriers



LOGISTIC

Robots and self-driving vehicles servicing the last mile, parcel lockers at retail sites



Introduction

- This industry includes establishments that operate the national postal service and perform one or more postal services such as sorting, routing and delivery;
- Establishments that **operate on a contract basis** (except the bulk transportation of mail) **are included** in this industry;
- The restriction to **small parcels** distinguishes these establishments from those in the transportation industries.



Competitors

- The standard postal services market was the **largest segment of the postal services market** segmented by type, accounting for **98.3% of the total** in 2019.
- **Government-owned** postal agencies typically have a **monopoly** on mail delivery, but face heavy competition from private delivery companies;
- All types of mail and parcel delivery providers experience increasing competition from email and secure document transmission providers;



Market Drivers

- Postal operators have started adopting data analytics to explore new **ways to increase mail volumes**, retain their existing customers and also attract new clients;
- **Retention campaigns** are being used to address the customers that are using less mail services and these campaigns have been successful in stemming volume decline.



ESG

- Customers are more likely to choose the **brands they are familiar with**, and some even report deep connections with their longtime postal and parcel carriers and organizations;
- Customer expectations extend to climate-friendly policies and services: **green strategies, practices**, the use of sustainable fuels and partnerships.





Opportunities

- With e-commerce growth continuing quickly, global postal service providers, e-retailers and **start-ups** are looking to gain a bigger share in the **B2C delivery market**;
- Market liberalization is extending new possibilities for diversification. Careful strategy selection can help leverage the potential value of their existing retail, logistics and delivery assets;
- Implementing and launching mobile phone applications, using big data technology to improve overall efficiency, investing in robotic technology for delivery and administration tasks.

Risks

- Substitution: acceleration of **decline in physical mail**, impacting revenues and profitability;
- Delay in **digital transformation** and the capital markets day objectives due to challenges with executing a broad range of **large change projects** at the same time may impact the ability to meet medium-term targets in relation to operational efficiency and customer experience.

Trends & Perspectives

- The market is expected to reach \$205 billion in 2025 at a CAGR of **1.2%**, and \$215 billion in 2030 at a CAGR of **0.9%**, after having decreased at a **CAGR of -7.34% in 2020**;
- Using **drones** for delivery of mails and parcels is a driving factor in this sector as drone can provide **contactless delivery** and is likely to be adopted in the future;
- **Mobile applications** allow users to find a postal code, calculate the shipping cost, manage parcel pickup, give product information, locate a post office or postal drop off box, track the delivery status of a product, and even play interactive stamp games.



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Profitability

It works with matters of **revenue, costs** and **profits** of the company mentioned in the case.

This type of case can be directed to **any industry**, since the profit is widely used to analyze the **financial situation** of a business.

It may also require a analysis of possible **hypothesis** to a fall in the profit.



Market Sizing

It seeks to **measure the market size** of a sector or of a company in units sold or sales (\$).

In general, more emphasis is given to the **structuring process** than to the calculation and the final answer.



Market Entry

It creates a scenario where a company is interested in **entering a new market** and wants to understand if it would be **benefic for them**.

It includes analyzing the **market, competitors** and a possible **financial return** of the company.



M&A

It involves the **acquisition** of one company by another or the **merger** between two companies.

It is necessary to explore **quantitative** - financial - and **qualitative** - related to synergies - aspects to come up with a recommendation on **whether or not** to acquire or to merge.





Growth

It analyzes and outlines **strategies** to make a company **increase its revenue**, exploring aspects such as the internal structure of the company, the natural growth of the market and M&As that help in this **business expansion**.



Investment

The Investment Go/No-Go case seeks to analyze whether it is worth making a **particular investment**, taking as points of analysis qualitative and quantitative factors provided to give a **concrete recommendation** to the client.



Pricing

Its goal is to define how much the company **should charge/pay** for some product, involving factors of the scenario that are relevant to the performance of the company, such as **profit margin** and **breakeven point**.



Cost reduction

It seeks, through a detailed analysis of the company's costs, to find costs that can be **modified** or **reduced**.

It is useful to achieve the required objective, searching the **optimization** of the process.





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DO

- Write down **keywords** of the problem statement;
- **Understand the business:** ask questions about the market, company, competitors, product and the client's goal;
- Make a issue tree that **covers all the main aspects** of the problem and **doesn't** have any repeated topic;
- **Communicate** your issue tree in a **top down** way, saying the bigger aspect first and then developing this topic in smaller aspects;
- **Communicate** everything you calculate and analyse;
- Be "**answers first**" in the recommendation: start by saying the case answer and then explain why;
- Always mention **risks** and **next steps**.

DON'T

- Repeat the problem statement in the **exact same words:** filter the important information;
- Use **memorized frameworks** that are not adapted for the specifics of the case;
- Just **ask for data** without explaining why it is relevant for the analysis.
- **Get stuck in your framework or insist on it:** let your interviewer show the path and follow it;
- Ask too **little** or **too many questions** before starting your analysis - avoid asking no more than 3 questions;
- Give generic risks and next steps on your recommendation: **be creative** and use this part to show **business sense**;



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Quantitative Analysis



Structure

The candidate should **structure his ideas** in an organized way with the points to be analysed and then show them to the interviewer.

Data

After the interviewer confirms the points, the candidate **must ask for data** present in the structure that wasn't mentioned before.


Calculations

Make calculations from the data provided with efficiency and agility. The candidate must **communicate** all his steps to the interviewer.

Insights

Analyse the result, **compare** it to another number and **connect** the answer with the case and the structure, developing **insights**.

Tips

1. Practice doing the math **without the calculator** and simplify them, especially in:
 - **Rounding:** whenever rounding a number up, round another one down to get the result that is closest to what is expected;
 - **Estimate** the numbers when necessary and compare to the reality.
-  Always **check with the interviewer** if it is possible to round numbers or estimate them.
1. It's important to have a **draft** to organize the numbers and calculation.
 2. The candidate should always **communicate** with the interviewer and **explain** the structure and calculations clearly during all the process.



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Case I: Basheinlar

Difficulty: easy

Sector: retail

Type: profitability

Guidance: candidate-led





Introduction

Problem Statement

Your client is Basheinlar, a world-famous Chinese clothing brand that sells clothes online to countries all over the world. Currently, its only factory is located in China, which supplies for countries like Brazil. Therefore, the client wants to know if it **would be more profitable** to supply the Brazilian demand by opening a new factory in Brazil.

Structure

The candidate needs to **calculate the profit** (revenue and costs) in Brazil with the possible new factory in Brazil versus the profit (revenue and costs) in Brazil with the factory in China.

The interviewer should guide the candidate to **start by calculating the revenue**, and then calculate the costs, since some depend on information given in the revenue section.

Information to be provided upon request

- The customer does not have a specific profitability metric.
- By opening the factory in Brazil, the company would keep its Chinese factory.
- There is no information regarding how this new factory in Brazil would impact other countries in South America.
- The quality of the products from both factories would be the same.
- The interviewee does not need to take into consideration the production capacity of the factories; he can consider that the production always matches the demand.
- The company has enough financial resources available to pay for the costs of opening the new factory. So, there is no need to take into consideration the costs of the initial investment.
- The company has no intention of opening physical stores anywhere.



Structure

Revenue from the Chinese factory with Brazilian customers

- Average price of the fashion items.

Demand:

- Brazil's population.
- Market size: Brazilian population that buys clothes from China.
- Market share: Basheinlar's market share in Brazil.
- Number of Basheinlar's fashion items that a Brazilian consumer usually buys at a time.
- How many times a Brazilian consumer buys from Basheinlar per year.

Revenue from the Brazilian factory with Brazilian customers

- Average price of the fashion items.

Demand:

- Brazil's population.
- Share of the Brazilian population that will buy from Basheinlar with the opening of the factory in Brazil:
 - a) People who did not buy because the shipping costs were too expensive.
 - b) People who did not buy because the shipping time was too long.
 - c) People who did not buy because they were afraid of being taxed.
- Number of Basheinlar's fashion items that a Brazilian consumer usually buys at a time.
- How many times a Brazilian consumer buys from Basheinlar per year.

Production costs for each factory

Fixed costs:

Operating costs: payroll, utilities (electricity, water), machinery maintenance and others

Variable costs:

Raw material, shipping costs and national taxes



Section I - Revenue from the Chinese factory with Brazilian customers

Revenue

- Average price of the fashion items: **\$20**.

In order to **estimate the demand**, the candidate should think about the following factors:

- Brazil's population: **200 M people**.
- Market size: Brazilian population that buys clothes from China: **2%**.
- Market share: Basheinlar's market share in Brazil (in the Brazilian market that buys clothes online from China): **50%**.
- Number of Basheinlar's fashion items that a Brazilian consumer usually buys at a time: **4 items**.
- Number of times a Brazilian consumer buys from Basheinlar per year: **1 time**.

Calculation

- Number of Brazilian customers = population x market size x market share
- Number of Brazilian customers = $200 \text{ M} \times 0.02 \times 0.5 = 2 \text{ M}$
- Average ticket = average price x number of items bought at a time x number of times
- Average ticket = $\$20 \times 4 \times 1 = \80
- Revenue = number of Brazilian customers x average ticket
- Revenue = $2 \text{ M} \times \$80$
- **Annual revenue = \$160 M**



Section 2 - Revenue from the Brazilian factory with Brazilian customers

Revenue

- Average price of the fashion items: **\$20**.

Demand - if the candidate does not think about the changes in the demand, ask the interviewee to brainstorm about how the demand would change:

- Brazil's population: **200 M people**.
- Brazilian population that is already a Basheinlar consumer (previously calculated): **2 M people**.
- Share of the Brazilian population that will start buying from Basheinlar with the opening of the factory in Brazil (there is no overlapping between these types of consumers):
 - a) People who did not buy because the shipping costs were expensive: **0.2%**.
 - b) People who did not buy because the shipping time was too long: **0.6%**.
 - c) People who did not buy because they were afraid of being taxed: **0.2%**.
- Number of Basheinlar's fashion items that a Brazilian consumer usually buys at a time: **2 items**.
- Number of times a Brazilian consumer will buy per year: **3 times**.

Calculation

- Number of Brazilian customers = current customers + (population x online clothing share x (A + B + C))
- Number of Brazilian customers =
 $2 \text{ M} + (200 \text{ M} \times (0.2\% + 0.6\% + 0.2\%)) =$
 $2 \text{ M} + (200 \text{ M} \times (1\%)) = 4 \text{ M}$
- Average ticket = average price x number of items bought at a time x number of times
- Average ticket = $\$20 \times 2 \times 3 = \120
- Revenue = number of Brazilian customers x average ticket
- Revenue = $4 \text{ M} \times \$120$
- **Annual revenue = \$480 M**



Section 3 - Chinese factory production costs

Costs

Ask the candidate to brainstorm about costs, and then show him/her Exhibit 1 after he/she lists all types of Basheinlar's costs:

- **Fixed costs:**

Operating costs:

Payroll

Utilities (electricity, water)

Machinery maintenance

Others

- **Variable costs:**

Number of fashion items: **8 M.**

Raw material

Export costs

National taxes

Exhibit 1 - page 46

Fixed Costs		Variable Costs	
Operational costs	Chinese factory		
Payroll	\$2 M / month	Raw material	\$4 per item
Utilities	\$1 M / month	Shipping costs	\$4 per item
Machinery maintenance	\$1 M / year	National taxes	20% of revenue
Others	\$1 M / month		

Attention!

Do not give this information to the candidate, since it was calculated during the revenue section: $2M \times 4 \times 1$

Calculation

- **Fixed costs** = ((payroll + utilities + others) x 12 months) + machinery maintenance = $((\$2 \text{ M} + \$1 \text{ M} + \$1 \text{ M}) \times 12) + \$1 \text{ M} = \mathbf{\$49 \text{ M}}$
- **Variable costs** = (number of items x (raw material + export costs)) + (national taxes x revenue) = $(8 \text{ M} \times (\$4 + \$4)) + (0.2 \times \$160 \text{ M}) = \mathbf{\$96 \text{ M}}$
- **Costs** = fixed costs + variable costs = $\$49 \text{ M} + \$96 \text{ M} = \mathbf{\$145 \text{ M}}$
- **Profit** = revenue - costs = $\$160 \text{ M} - \$145 \text{ M} = \mathbf{\$15 \text{ M}}$



Section 4 - Brazilian factory production costs

Costs

Ask the candidate to brainstorm about costs, and then show him/her Exhibit 1 after he/she lists all types of Basheinlar's costs:

- **Fixed costs:**

Operating costs:

Payroll

Utilities (electricity, water)

Machinery maintenance

Others

- **Variable costs:**

Number of fashion items: **24 M.**

Raw material

Shipping costs

National taxes

Exhibit 2 - page 47

Fixed Costs		Variable Costs	
Operational costs	Brazilian factory	Raw material	\$6 per item
Payroll	\$6 M / month	Shipping costs	\$1 per item
Utilities	\$2 M / month	National taxes	40% of revenue
Machinery maintenance	\$5 M / year		
Others	\$3 M / month		

Attention!

Do not give this information to the candidate, since it was calculated during the revenue section: $4M \times 2 \times 3$

Calculation

- **Fixed costs** = ((payroll + utilities + others) x 12 months) + machinery maintenance = $((\$6 M + \$2 M + \$3 M) \times 12) + \$5 M = \mathbf{\$137 M}$
- **Variable costs** = (number of items x (raw material + shipping costs)) + (national taxes x revenue) = $(24 M \times (\$6 + \$1)) + (0.4 \times \$480 M) = \mathbf{\$360 M}$
- **Costs** = fixed costs + variable costs = $\$137 M + \$360 M = \mathbf{\$497 M}$
- **Profit** = revenue - costs = $\$480 M - \$497 M = \mathbf{- \$17 M}$



Checklist

Checklist

- China factory's revenue.
- Brazil factory's revenue.
- China factory's costs.
- Brazil factory's costs.

Insights

- Understand that the number of people who buy Basheinlar in Brazil would increase with the opening of the factory here, since the new factory would bring better buying conditions to the consumer.
- Realize that the factory in Brazil would bring losses due to the very high costs with labor, raw materials and taxes.



Conclusion

Recommendation

Opening a factory in Brazil is **NOT** profitable, but rather harmful to Basheinlar. The revenue and the number of fashion items sold in Brazil would grow a lot (from \$160 M to \$480 M), however the production costs and taxes in Brazil are very high, which would result in an annual loss of \$17 M, while the Chinese factory currently generates an annual profit of \$15 M, corresponding to a profit margin of 9.38%.

Risks

- Exchange rate oscillations directly impact the prices of the products, since they are produced abroad and their costs are not in Brazilian Reals. Therefore, the prices need to be constantly adjusted, possibly affecting the sales volume of the China factory.
- The demand forecast for the factory in Brazil may have been underestimated.
- The rise of a new competitor may weaken Basheinlar's lead in market share of the Chinese clothing market in Brazil.

Next Steps

- Create a distribution center in Brazil to stock the products that were manufactured in China. This way the delivery time will be reduced, covering the customers who do not buy because the delivery time is long.
- Study the possibility of exporting the products from this distribution center in Brazil to other countries in South America, in order to decrease transportation costs to these countries.
- Do not immediately rule out the opening of the factory in Brazil: study its profitability if it is possible to meet the demands of other countries in South America through this new factory.
- Make agreements with the Chinese government in order to reduce taxes, which currently correspond to a rate of 20% of revenue, alleging that the company is a great generator of jobs for the country.
- Make agreements with the Brazilian government to reduce customs duties.

Case I: Basheinlar - Page 9 of 10

Exhibit I (Chinese factory)



Fixed Costs	
Operational costs	Chinese factory
Payroll	\$2 M / month
Utilities	\$1 M / month
Machinery maintenance	\$1 M / year
Others	\$1 M / month

Variable Costs	
Raw material	\$4 per item
Shipping costs	\$4 per item
National taxes	20% of revenue

Case I: Basheinlar - Page 10 of 10

Exhibit 2 (Brazilian factory)



Fixed Costs	
Operational costs	Brazilian factory
Payroll	\$6 M / month
Utilities	\$2 M / month
Machinery maintenance	\$5 M / year
Others	\$3 M / month

Variable Costs	
Raw material	\$6 per item
Shipping costs	\$1 per item
National taxes	40% of revenue



Case 2: Papaya Air

Difficulty: medium

Sector: aviation

Type: profitability

Guidance: candidate-led



Introduction

Problem Statement

Your client is a British airline that provides commercial national and international flights within Europe, called Papaya Air. Over the past two years, the airline has gradually lost some of its customers and currently has an average occupancy rate of around 65% on their flights.

The CEO of Papaya Air wants your help to **identify why the company** is struggling to increase the volume of travelers on its flights and what measures they can take to increase the flight occupancy rate.

Structure

Your client is looking for **ways to improve** his company's average occupation flight and has come to you for advice for **internal and external changes**. This case will analyze the internal layout of their aircrafts as well as marketing strategies to increase visibility of the brand.

Information to be provided

- The CEO wants to increase the occupancy rate by **10 percentage points (pp)**, reaching a total rate of 75%.
- Papaya does not have a target audience, serving clients with different levels of income.
- Two years ago, the average occupancy rate of the market was 70%.
- Papaya was the only airline that had a decrease in the occupancy rate in the last couple of years. Its competitors, in contrast, had a growth of 5 pp, totaling, nowadays, an occupancy rate of 75%.
- Papaya's hub airport is Gatwick, in London, United Kingdom.
- Papaya has allocated **£425 M to perform the necessary implementations and changes**.



Structure

Section 1 - Internal problems

Understand why Papaya has lost even with the market growing

- Analysis of the different route categories, their average flight occupancy, and participation in the total volume of flights offered by the company.
 - Analysis of problematic region customer volume vs. the markets (occupancy rate).
 - Brainstorm ways to improve the efficiency of the flights → change the layout of the airplane seats to adhere to customer preferences.
 - Analysis of the 3 types of airplane layouts, in which each prioritizes a different type of seat, considering the market's standard and choosing the most adequate one.
- This will increase the average occupancy rate but it is still below the target.

Section 2 - Gaining more clients

Methods to attract more customers (Brainstorming session)

- Change the company's target audience, offering a more premium experience to the customer or lowering the ticket price to attract a greater volume of customers.
- Open new routes, expanding to new continents, perhaps through the purchase of another airline.
- Marketing sports events (**answer**).

Sponsoring Sport Events

- Analyze the 3 events, considering the costs of sponsorship and their potential return on investment (increase the occupancy rate).



Section I - Route analysis

Papaya's markets

- National
- Southern Europe
- Western Europe
- Eastern Europe
- Northern Europe

Additional information about the Southern Europe routes (not essential but can be given if asked):

- Papaya Airlines acquired a couple of years ago an airline company and expanded its services to Southern European countries.
- This company, however, offered a more luxurious service compared to Papaya.

Analyzing Papaya's markets

The candidate should ask for more information about the structure of the company and, when he requests information about the different flight routes and their occupancy rate or participation in the total flights offered by Papaya Air, **show him Exhibit 1.**

After the analysis

After analyzing Exhibit 1, the candidate should come to the conclusion that the Southern Region is the most problematic and should be addressed first.

For this reason, if the candidate asks about the Southern Europe route, and why its occupancy rate is so low, **ask them how we can analyze further this issue or what might be the reasons behind the discrepancy.**

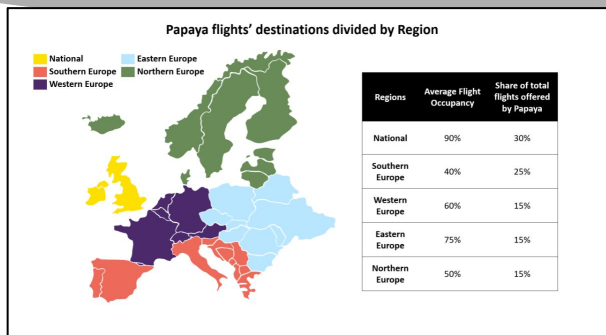
Unfortunately, to make changes most efficiently, without generating unnecessary extra costs and minimizing the risk of further losses for the company, the only option at present time is **to change a route aircrafts' seat layout.**

When the candidate mentions anything related to the different types of seats in a flight, show him Exhibit 2.



Takeaways

- National flights are very effective in getting customers to fill their aircraft, which also suggests why it has the biggest share of the total volume of flights offered by the airline.
- The Southern Region is badly managed, where even though they offer a quarter of all flights, **their occupancy rate is just 40%, much lower than the objective given by the CEO.**
- Therefore, the candidate should realize they should focus mainly on the Southern Region.



Calculation

All Papaya aircraft are the same size and can generate the same revenue although the number of each type of seat may vary.

Not essential, but it is possible to calculate Papaya's current average occupancy rate with the numbers in the table:

- **National:** $90\% \times 30\% = 27\%$
- **Eastern Europe:** $75\% \times 15\% = 11.25\%$
- **Northern Europe:** $50\% \times 15\% = 7.5\%$
- **Southern Europe:** $40\% \times 25\% = 10\%$
- **Western Europe:** $60\% \times 15\% = 9\%$
- **Total:** $27\% + 11.25\% + 7.5\% + 10\% + 9\% = \mathbf{64.75\%}$

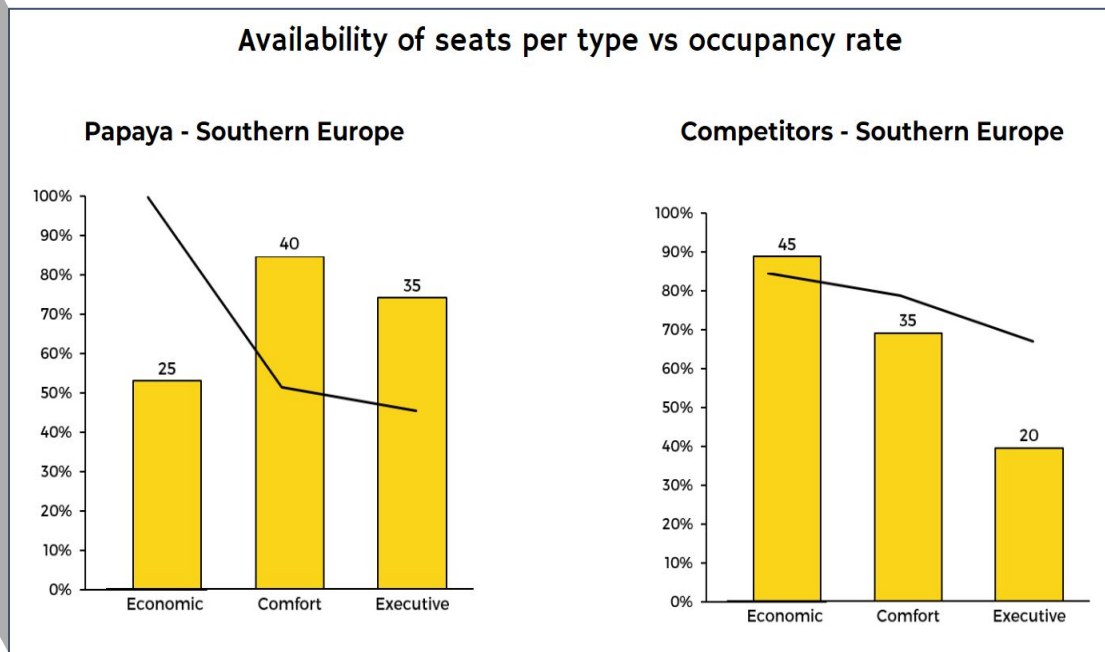
The candidate can use 65% as the current average occupancy rate.



Section I - Exhibit 2

Takeaways

- Most customers that fly this route prefer **economic seats**, as you can see by the almost 100% occupied seats in the chart.
- Through the combined analysis of available seats and occupancy rate, it can be concluded that **the current distribution of the different types of seats is not optimized with the demands of the public.**
- Thus, to optimize this distribution of type of seats, **the candidate will be presented with the possibility of changing the aircraft layout.**





Section I - Airplane layout

Airplane layout

The candidate can consider that all layouts **generate the same amount of revenue and create the same maintenance costs.**

ECU layout (current layout):

- 25 economy seats, 40 comfort seats, and 35 executive seats (100 seats in total).

The candidate **does not have to calculate the occupancy rate** for the plane layout using the numbers in Exhibit 2, instead you can give the numbers stated for each airplane layout.

After choosing the layout

Succeeding this analysis, it can be concluded that, even with the changes made to the aircraft layout, the goal set by the CEO has not yet been reached. Therefore, to stimulate a brainstorming question, you might ask the candidate **"What other investments can be contemplated to increase Papaya's average occupancy rate?"**.

Feel free to direct the candidate in this part as the change between sections might be difficult for some.



Section I - Airplane layout

New layouts

DRS layout (premium layout):

- 0 economy seats, 30 comfort seats, and 40 executive seats (70 seats in total).
- Cost: **£130 M**
- Increase in occupancy rate for the route: **17 pp.**
 - **17% * 25% = 4.25%**

Additional Takeaway: this airplane configuration can affect Papaya's audience further in this route, turning this route even more premium than before.

BOX layout:

- 120 economy seats, 20 comfort seats, and 10 executive seats. (150 seats in total).
- Cost: **£200 M**
- Increase in occupancy rate for the route: **30 pp.**
 - **30% * 25% = 7.5%**

Additional Takeaway: this configuration allows more seats to be offered and adheres to the wishes of budget friendly customers.



Marketing

During the brainstorming session, the candidate might mention countless opportunities. When the candidate touches on topics related to the **market** or the **company's public image**, present him the information that Papaya Air has started analyzing the option of investing in a sporting event to increase the visibility of the brand.

Event options

Along these lines, Papaya has already mapped out possible events to sponsor to further leverage its brand to European consumers:

- European Club Championship, in Greece
- Monte Carlo Racing Weekend, in Monaco
- Paris Grand Slam, in France



Section 2 - Marketing opportunities

Calculation

Papaya has the access to some information that might help the candidate to decide which event to sponsor:

- European Club Championship
 - Cost: £220 M
 - The visibility will increase the occupancy rate of all international routes by 5pp.
 - $5\% * 70\% = 3.5\%$
- Monaco Racing Weekend
 - Cost: £150 M
 - The visibility gained will increase the occupancy rate of all international routes by 3pp.
 - $3\% * 70\% = 2.1\%$
- Paris Grand Slam
 - Cost: £250 M
 - The visibility gained will increase the occupancy rate of the Western Europe route by 10pp and all other international routes by 6pp.
 - $10\% * 15\% = 1.5\%$
 - $6\% * 55\% = 3.3\%$
 - **Total: 4.8%**

Thus, to achieve the goal of **75% of average occupation**, the candidate must choose to adopt the **shadow layout**, leveraging the average occupancy by 7.5%, with costs of €200 M and sponsor the European Club Championship Final, which would bring a 3.5% increase with costs of **€220 M**.



Checklist

Checklist

- Analyzed all Papaya's Market.
- Compared Papaya Southern routes with competitors.
- Chosen a new layout for Papaya's aircrafts.
- Chosen a new sporting events to sponsor.

Insights

- Understand that the Southern Europe Routes are the most problematic and the airplane layout should be changed to suit the demand, adopting a layout that offers more economy seats.
- The event chosen must fit into the allocated budget while also helping to achieve the target average occupancy rate.



Conclusion

Recommendation

Adopt the BOX Layout and sponsor European Club Championship Final

Use the funds that the company has available to invest in a new seating layout on the planes of the Southern Europe routes, adopting the BOX layout. **This model will cost €200M and increase by 7.5pp the company's average occupancy rate.** This layout also is aligned to Papaya's current customer demands of offering more budget-friendly seats.

In addition, by sponsoring the European Club Championship Final, **for €220 M, it is possible to increase the company's average occupancy rate by 3.5pp.**

Therefore, they will leverage Papaya beyond their initial goal of **75% average occupancy rate, reaching 76% and maintaining a cost of €420 M, below the budget of €425 M.**

Risks

- The values are optimistic. Part of their success depends on the championship and, if anything were to happen the company might not get the expected exposure.
- The commercial flight market is very susceptible to economic instability.
- The commercial flight market is also in constant change, with new players coming in every day with different business models that may negatively impact well-established companies such as Papaya Air.

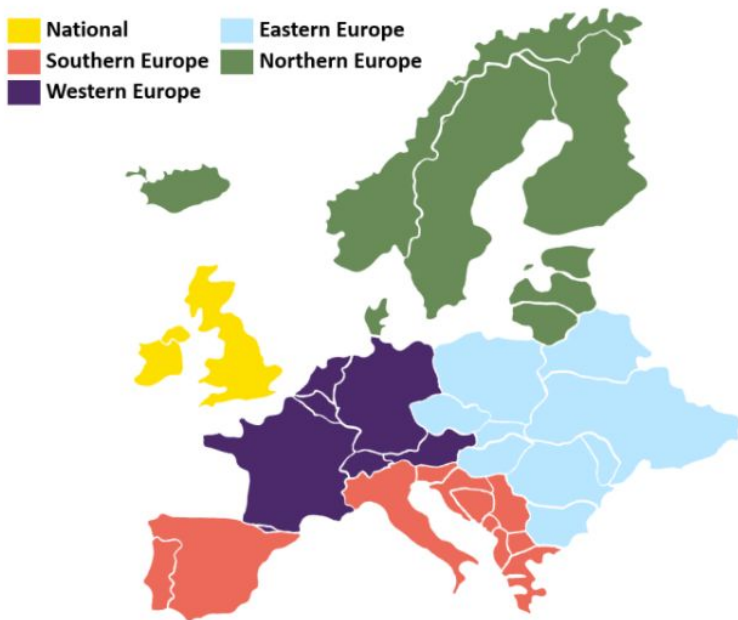
Next steps

- Analyze further the positive and negative impacts the European Club Championship Final might bring to our company in the short and long term.
- It was not considered to modify other routes, which could further increase the company's occupancy rate, analyzing each route to understand which layout is best suited for each route's demand.



Exhibit I

Papaya flights' destinations divided by Region

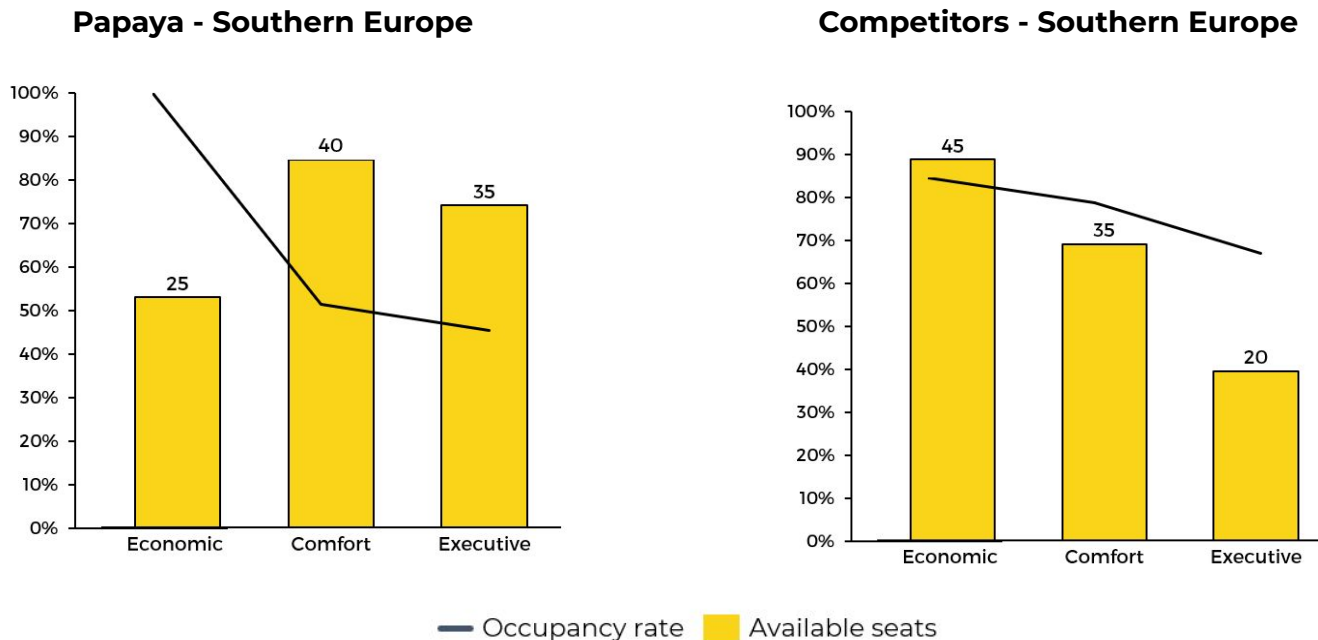


Regions	Average Flight Occupancy	Share of total flights offered by Papaya
National	90%	30%
Southern Europe	40%	25%
Western Europe	60%	15%
Eastern Europe	75%	15%
Northern Europe	50%	15%



Exhibit 2

Availability of seats per type vs occupancy rate





Case 3: Bengali Vax

Difficulty: medium

Sector: health

Type: investment go/no-go

Guidance: interviewer-led



Introduction

Problem Statement

The world is facing a pandemic crisis caused by the H3N2 virus, so Bangladesh's Ministry of Health has hired you to know which vaccine brand should be bought to immunize its population.

Structure

To structure the problem, two macro-topics must be analyzed, **the vaccine** and **the country's internal structure**.

- **Vaccine**
 - **Efficacy:** Comparison with countries that have already immunized their population.
 - **Price:** Calculated based on the amount of doses that will be distributed.
- **Country**
 - Immunization time: Distribution capacity of the country and shipping time.

Information to be provided upon request

- The country wants to immunize the population **effectively, cheaply and quickly**. That being said, a minimum of 85% efficacy is required for the contracted vaccine.
- Bangladesh's Health Minister has to decide between 3 different brands of vaccine: **Transform**, a vaccine from Australia; **Healthco**, from India; and **Immunize**, from France.
- There is no information regarding the type of vaccine of each brand (e.g. mRNA, attenuated virus, etc.).
- All brands are foreign, therefore they are produced abroad and must be imported.
- Bangladesh is in a deep economic crisis, so the country wants to spend as little as possible considering what is needed. **(Answer this to the candidate in case of any question related to financial context and/or budget of the country).**



Efficacy

Efficacy analysis

First of all, you should ask the candidate **in what ways does he/she think it is possible to calculate the efficacy of any vaccine.**

After listing the possible methods to calculate efficacy, inform the candidate that to calculate the efficacy of any of the vaccines it is necessary to make a comparison between countries that have immunized their population in advance by using each of the considered vaccine brands, calculating the number of people who have taken the vaccine, and analyzing, in terms of percentage, how many of those had the disease even after taking the dose(s).

Also report the following mathematical formula for efficacy:

Efficacy = 1 - (Number of post-vaccination cases / Number of vaccinated people)

Lastly, **inform the candidate that the efficacy should be calculated for the whole population, not per age group.**

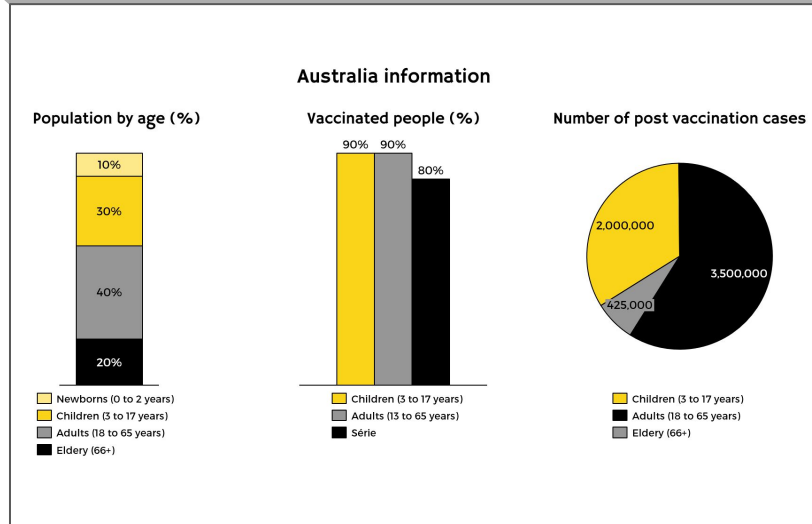
Therefore, having obtained the formula to calculate the efficacy, **give the candidate the information (Exhibits 1, 2 and 3) about the vaccination with details for each of the vaccine brands, according to their requests.**



Transform

Notes for exhibit I

- The comparison for **Transform** is with **Australia**.
- **Country's population:** 25 M people.



Calculations

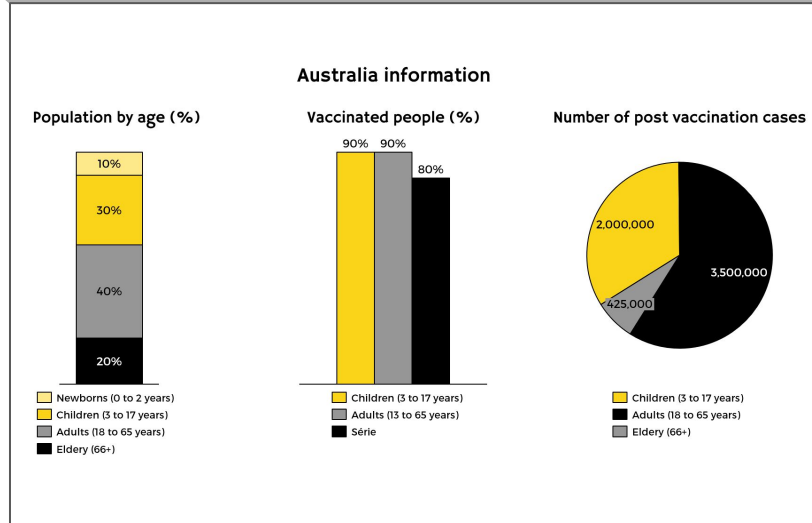
- **Population of each age group:**
 - **Newborns:** 25 M (Pop. Australia) x 10% = 2.5 M
 - **Children:** 25 M x 30% = 7.5 M
 - **Adults:** 25 M x 40% = 10 M
 - **Elderly:** 25 M x 20% = 5 M
- **Number of vaccinated people:**
 - **Newborns:** 0
 - **Children:** 7,5 M (Number of children) x 90% = 6.75 M
 - **Adults:** 10 M (Number of adults) x 90% = 9 M
 - **Elderly:** 5 M (Number of elderly) x 80% = 4 M
- **Total: 19.75 M** (Sum of the above quantities)



Transform

Notes for exhibit I

- The comparison for **Transform** is with **Australia**.
- **Country's population:** 25 M people.



Calculations

Number of post vaccination cases:

- **5.925 M** (Sum of the number of post-vaccine cases per group)

Efficacy: $1 - (5.925 \text{ M (Number of post vaccination cases)} / 19.75 \text{ M (Number of vaccinated people)}) = 70\%$

Conclusion

Therefore, the candidate should rule out the purchase of Transform, because it does not achieve the minimum efficacy required by the country.



Healthco and Immunize

Notes for exhibit 2 and 3

The interviewer must give number of vaccinated people and number of post vaccination cases **for Healthco**, from Colombia, and **Immunize**, from Egypt, for him/her calculate the efficacy for each of them.

Healthco

- **Number of vaccinated people:** 37.5 M
- **Number of post vaccination cases:** 3.75 M
- **Efficacy:** $1 - (3.75 \text{ M (Number of post vaccination cases)} / 37.5 \text{ M (Number of vaccinated people)}) = 90\%$

Conclusion:

- Therefore, Healthco is an option for the Bangladesh government since it meets the requirement.

Immunize

- **Number of vaccinated people:** 64.5 M
- **Number of post vaccination cases:** 9.6 M
- **Efficacy:** $1 - (9.6 \text{ M (Number of post vaccination cases)} / 64.5 \text{ M (Number of vaccinated people)}) = 85\%$

Conclusion:

- In this way, Immunize passes the client's requirement, meeting the minimum required effectiveness.



Costs and immunization time

Costs

At this moment, **there is no preferable order to analyze between costs and time to immunize their population.** So, to know the costs, the candidate must find the **cost per batch of each vaccine**, as well as **which population of Bangladesh will be vaccinated**, and the **margin of error for each brand.**

Information to be given upon request:

- Bangladesh's population: 220 M
- Percentage of the population who are eligible and are willing to be vaccinated: 80%

Information to be obtained

- **Population to be vaccinated:** 220 M (Population of Bangladesh) x 80% = **176 M**

Immunization time

Considering the immunization time, the only factor that comes into consideration is the shipping time for each of the brands.

- **Transform:** 120 days
- **Healthco:** 60 days
- **Immunize:** 60 days



Costs and immunization time

Information to be provided

Transform:

- Single dose
- Batch: 10 K doses
- About 10% of vaccines expire before they are used
- Total importing costs: \$8 M
- Price per batch: \$22.5 K

Calculations

- Number of doses to be purchased: 176 M (Population to be vaccinated) / 0.9 (1 - 10% (expiring vaccines)) = **196 M**
- Quantity of batches to be purchased: 196 M (Qty. to be purchased) / 10k (Qty. of doses per batch) = **19.6 K**
- Total costs with vaccine batches: 22.5 K (Price per batch) x 19.6 K (Qty. of batches) = **\$441 M**
- Importing costs: **\$8 M**
- Total costs: **\$449 M** (Total costs with vaccine batches + Importing costs)



Costs and immunization time

Data

The interviewer must give number of doses to be purchased, quantity of batches to be purchased, total costs with vaccine batches, importing costs and total costs **for Healthco**, from Colombia, and **Immunize**, from Egypt, for him/her.

Healthco

- Number of doses to be purchased: **390 M**
- Quantity of batches to be purchased: **26 K**
- Total costs with vaccine batches: **\$1.014 B**
- Importing costs: **\$10 M**
- Total costs: **\$1.024 B** (Total costs with vaccine batches + Importing costs)

Immunize

- Number of doses to be purchased: **370 M**
- Quantity of batches to be purchased: **23,125**
- Total costs with vaccine batches: **\$693.75 M**
- Importing costs: **\$15 M**
- Total costs: **\$708.75 M** (Total costs with vaccine batches + Importing costs)



Conclusion

Recommendation

The vaccine brand that Bangladesh should buy is **Immunize**.

- It **meets the efficacy**, even though it was only the minimum required.
- It has a total price that is **30% lower than Healthco**, the only competitor that met the efficacy, something extremely important due to the actual economic crisis experienced by Bangladesh.
- In addition to having a significantly lower price than Healthco, it has the **same immunization time**.

Risks

- Immunize's efficacy can be detrimental to the country, when compared to Healthco, since in cases of disease incidence after vaccination the country will have higher hospital costs.
- Focusing on one vaccine can lead to stopping the campaign in case of supply problems if the brand has any kind of problems.

Next Steps

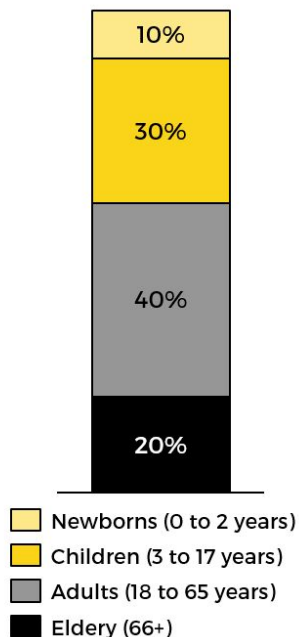
- It is necessary that Bangladesh starts to take better measures in order to prevent a sanitary crisis like this from happening again.
- The government must allocate a bigger budget for scientific research and pharmaceutical companies to be better prepared in future pandemics and be independent to other countries.



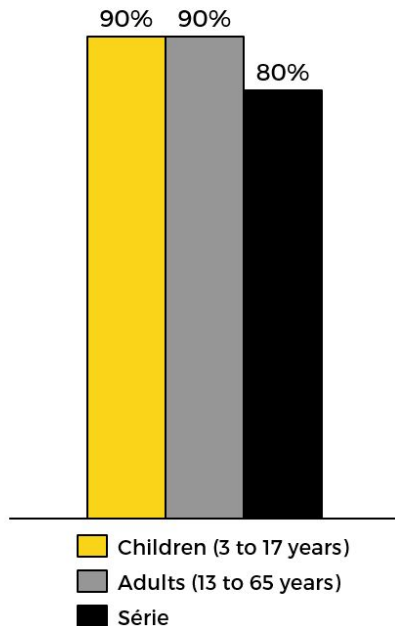
Conclusion

Australia information

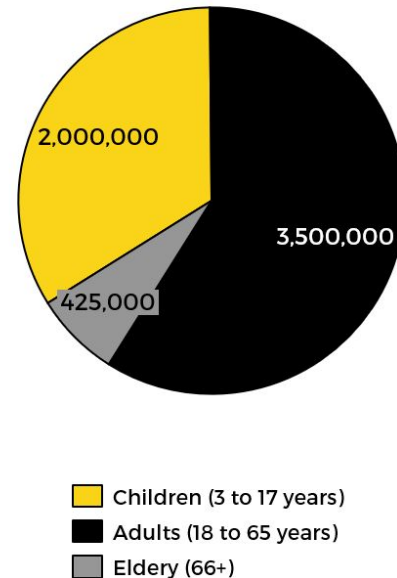
Population by age (%)



Vaccinated people (%)



Number of post vaccination cases





Case 4: Continental Cup

Difficulty: hard

Sector: sports

Type: investment go/no-go

Guidance: candidate-led





Introduction

Problem Statement

Your client is the South American Football Confederation (SAFC), which is trying to decide in which stadium should the South American Continental Cup (SACC) Final be held. In the event, fans fill entire stadium and demonstrates how proud they are of the South American Football. With that being said, the SAFC's President **has requested your consulting firm to help in this decision.**

Structure

The candidate structure should address stadium general and financial information. Possible points to be listed are: **stadiums** - external and internal stadium characteristics that may influence the choice -, **revenue** and **expenses**.

Information to be provided upon request

- Take into consideration the highest possible profit for the entity.
- South American Continental Cup is a traditional 16-team South American soccer tournament.
- The candidate may consider that SAFC does not have major financial problems.
- There are 4 stadiums from different countries competing to host the final match:
 - Monumental Stadium / Ecuador
 - Rio Stadium / Brazil
 - Centenary Stadium / Uruguay
 - Olympic Stadium / Portugal



Section I - Stadium information

Stadium information notes

When the candidate asks for information about the stadiums, ask them to **brainstorm** what information they think is necessary. Some points that can be listed by the candidate:

- Location / Mobility: understand if the Stadium's location is easy or difficult to access;
- Average number of games per year;
- infrastructure: modern or not;
- Capacity;
- Stadium owner: Public or Private (some teams own it).

A good candidate will list these and other variables, but while they have several variables, the interviewer must indicate that only capacity will be important in solving the case and give the following.

Information to be provided

Audience capacity in the Stadiums:

- Rio Stadium / Brazil – **50,000 spectators**
- Monumental Stadium / Ecuador – **55,000 spectators**
- Centenary Stadium / Uruguay – **60,000 spectators**
- Olympic Stadium / Portugal – **65,000 spectators**

No other final have been held outside the South American continent, but the SACC does not rule out the possibility.

In the last three editions, two of the final matches were held in Brazil and the other one in Peru.



Section 2 - Financial information

Financial information notes

The candidate should structure how one can reach the financial result that each stadium would have. On this way, he/she must address two fronts of information: sources of revenues and expenses. If he/she asks directly about income and expenses, tell him/her to break down what he/she thinks are the main sources of income and expenses in a sport event. Some points that can be listed by the candidate:

- **Revenues:** ticket sales, broadcasting rights and sponsorships.
- **Expenses:**
 - logistics – transportation of the teams both to the city of the final and within the host city, hotel (for the teams and organization);
 - places for training in the days before the final, among other operational issues related to soccer games;
 - infrastructure;
 - awards.

Once the candidate has brainstormed the types of income and expenses, show him/her Exhibit 1, that compiles the information needed to estimate the financial return.



Section 3 - Exhibit I

Notes on exhibit I

Validations to be done by the candidate on the structure of the profit calculations:

If the candidate asks for the names of the countries, validate:

- Brazil - **4 teams**
- Uruguay - **3 teams**
- Argentina and Ecuador - **2 teams from each country**
- Paraguay, Bolivia, Chile, Peru and Colombia - **1 team from each country**

Extra Sponsorship – Tell the candidate that the calculation is done by multiplying the value by a probability. This probability is the number of possible match combinations in which at least 1 team from the host country is in the final by the number of total possible games in the final. **The sponsorship remains the same if two teams of the host country play the final match.**


All teams have the same probability of reaching the final.


Attention!



A **good candidate** will analyze the quantitative information and try to base his/her values on the qualitative information mentioned above.






Revenue				Cost Structure	
Stadiums	Average ticket price	Sponsorship & Media Rights	Extra Sponsorship	Infrastructure & logistics expenses	Prize money
Rio Stadium / Brazil	\$ 100.00	\$ 25,000,000.00	\$ 15,000,000.00	\$ 3,000,000.00	\$ 5,000,000.00
Monumental Stadium / Ecuador	\$ 100.00	\$ 20,000,000.00	\$ 50,000,000.00	\$ 4,500,000.00	\$ 5,000,000.00
Centenary Stadium / Uruguay	\$ 80.00	\$ 27,500,000.00	\$ 10,000,000.00	\$ 2,500,000.00	\$ 5,000,000.00
Olympic Stadium / Portugal	\$ 200.00	\$ 25,000,000.00	-	\$ 3,000,000.00	\$ 5,000,000.00

Extra Sponsorship
<ul style="list-style-type: none">• Is the extra Sponsorship that will be paid if at least one team of the country is in the final match.• All teams in the competition have the same probability to be in the final.

4 Teams
 (Brazil)

3 Teams
 (Uruguay)

2 Teams
 (Argentina)  (Ecuador)

1 Team
 (Paraguay)  (Bolivia)  (Chile)  (Peru)  (Colombia)



Section 4 - Sponsorship notes

Calculation - first way

At this part, let the candidate understand alone how to calculate it. However, if he/she struggles, you can inform the logic to solve the problem, but do not mention the formulas.

To perform this calculation there are **two different** ways, but in both he/she need to calculate the total number of possible endings.

Possible combinations of teams in the finals match - to calculate this value, a combinatorial analysis must be done excluding repeated values (divide by 2), since the game of team A with team B is the same as the game of team B with team A.

Thus, since there are 16 teams. The candidate must perform the following calculation:

$(16 \times 15) / 2 = 120$ or $16! / (14! \times 2) = 120$ possible teams combinations in the final match.



Section 4 - Sponsorship notes

Calculation - second way

The second way would be to perform the reverse calculation: how many games without teams from the host country, decreasing this value from the total number of games, and calculating the probability.

Matches between teams not from the host country: For this, we should first recognize that there are Y teams from the host country playing the competition. With that in mind, in order to calculate the number of possible finals between teams that are not from the host country, the following formula needs to be used: $X = (16 - Y) \times (15 - Y) / 2$.

With this the candidate should take the value found to decrease 120 (number of possible matches), accounting for the value of matches with at least 1 team from the host country. This value should be divided by 120: $(120 - X) / 120$.



Section 5 - Revenue calculation

Rio stadium information

- Rio Stadium (Brazil): **50,000 spectators**
- Average Ticket Price: **\$100**
- Sponsorship & Media Rights: **\$25 M**
- Extra Sponsorship: **\$15 M**
- Infrastructure & logistics expenses: **\$3 M**
- Prize Money: **\$5 M**
- Teams from Stadium's country: **4 teams**

Calculation

Expenses

- Infrastructure and Logistics: \$3 M
- Prize: \$5 M
- Total Expense: \$3 M + \$3 M = \$8 M

Revenue

- Tickets: $50,000 \times \$100 = \5 M
- Sponsorship: \$25 M
- Extra Sponsorship:
 - Matches: $(16 \times 15) / 2 = 120$
 - Calculation: $(16 - Y) (15 - Y) / 2$
 - $(12 \times 11) / 2 = 66$ matches without Brazilian teams.
 - $120 - 66 = 54$ matches with at least 1 Brazilian team.
 - Probability:
 - $54/120 = 45\%$
 - $45\% \times \$15 \text{ M} = \6.75 M
- Total revenue: $\$5 \text{ M} + \$25 \text{ M} + \$6.75 \text{ M} = \36.75 M
- **Total profit: $\$36.75 \text{ M} - \$8 \text{ M} = \$28.75 \text{ M}$**



Section 5 - Revenue calculation

Data

The interviewer must give the value of expenses and revenue for the **Monumental stadium**, the **Centenary stadium** and the **Olympic Stadium** for him/her to calculate the profit of each stadium.

Monumental stadium information

Expenses:

- Total Expense: **\$9.5 M**

Revenue:

- Total Revenue: **\$37.5 M**

Profit:

- $\$37.5 \text{ M} - \$9.5 \text{ M} = \mathbf{\$8 \text{ M}}$

Centenary stadium information

Expenses:

- Total Expense: **\$7.5 M**

Revenue:

- Total Revenue: **\$35.8 M**

Profit:

- $\$35.8 \text{ M} - \$7.5 \text{ M} = \mathbf{\$28.3 \text{ M}}$

Olympic stadium information

Expenses:

- Total Expense: **\$11 M**

Revenue:

- Total Revenue: **\$38 M**

Profit:

- $\$38 \text{ M} - \$11 \text{ M} = \mathbf{\$27 \text{ M}}$



Conclusion

Recommendation

The candidate should **recommend the Rio Stadium**. Since the structure of revenues and costs, especially for the extra sponsorship, the stadium located in Brazil would give a return of **\$28.75 M, about \$1.35 M more than the Olympic Stadium**.

Risks

- The main risk is that the data is performed on top of a probability, so the amount raised with the extra sponsorship may not materialize, and, therefore, the main advantage of the Rio Stadium, as it is the highest profit estimate due to the extra sponsorship, might not exist.
- The attendance for the match in Portugal may be larger than expected by the SACF, considering the possibility of locals watching the match.
- Another point is that in the last 3 editions the final has been held in Brazil twice, which may annoy fans from other countries for not being able to watch the final in their own country while a single country hosts more finals in a row.

Next Steps

- Start the process of negotiating the lease agreement for the stadium to host the final.
- In addition, to increase the amount collected in future editions, we can seek to optimize the logistics and infrastructure costs, further increasing the margin of returns.
- Thinking about the final to be held, the SAFC can hold more events during the week before the final match in the city of the host state, in order to explore higher revenues from sponsorships while strengthening its image in front of the continent's fans.



Exhibit I

Revenue			
Stadiums	Average ticket price	Sponsorship & Media Rights	Extra Sponsorship
Rio Stadium / Brazil	\$ 100.00	\$ 25,000,000.00	\$ 15,000,000.00
Monumental Stadium / Ecuador	\$ 100.00	\$ 20,000,000.00	\$ 50,000,000.00
Centenary Stadium / Uruguay	\$ 80.00	\$ 27,500,000.00	\$ 10,000,000.00
Olympic Stadium / Portugal	\$ 200.00	\$ 25,000,000.00	-

Cost Structure	
Infrastructure & logistics expenses	Prize money
\$ 3,000,000.00	\$ 5,000,000.00
\$ 4,500,000.00	\$ 5,000,000.00
\$ 2,500,000.00	\$ 5,000,000.00
\$ 3,000,000.00	\$ 5,000,000.00



Extra Sponsorship

- Is the extra Sponsorship that will be paid if at least one team of the country is in the final match.
- All teams in the competition have the same probability to be in the final.

4 Teams



(Brazil)

3 Teams



(Uruguay)

2 Teams



(Argentina)



(Ecuador)

1 Team



(Paraguay)



(Bolivia)



(Chile)



(Peru)



(Colombia)



Case 5: Gourmet Debut

Difficulty: medium

Sector: food

Type: market entry

Guidance: interviewer-led





Introduction

Attention

This is an interviewer-led case, so you, as the interviewer, are expected to guide the candidate throughout the case by asking the interviewee the questions posed in this document.

Problem Statement

Your client is willing to open a restaurant in his city and has hired you to understand what is the best strategy to create a successful business and what is the expected profit for the restaurant. So, how would you **structure an approach to meet the client's desire?**

Information to be provided upon request

- The client has no previous experience with this industry.
- The restaurant will be located in a mid-sized city, but the client has no idea yet regarding the exact region or neighborhood where it will be located.
- The client has not defined yet the restaurant's specialty, so this is another topic that the client expects the interviewee to recommend the best suited for his business.
- The size of the restaurant will depend on how many people are expected to be served per day, and the client has no idea of this number yet.
- The restaurant industry has grown in his city in recent years mainly due to the improvement of the socioeconomic conditions of its inhabitants.
- The client wants to obtain **at least \$3.5 million in revenue per year**, otherwise, he will consider it not to be worthwhile opening the restaurant.
- The client is more worried about revenue than profit.
- The client is willing to invest as much money as necessary in this new business, as long as he gets the annual revenue target.
- There is no information about competitors.



Question I

Ask the candidate

First of all, the client wants to decide the restaurant's specialty. What information do you consider to be relevant for this decision?

Notes on question I

This question is intended to assess the candidate's graphical and data analysis skills.

Expected answers: consumer preferences, average ticket of the dishes, and differing costs.

Guidance for the interviewer

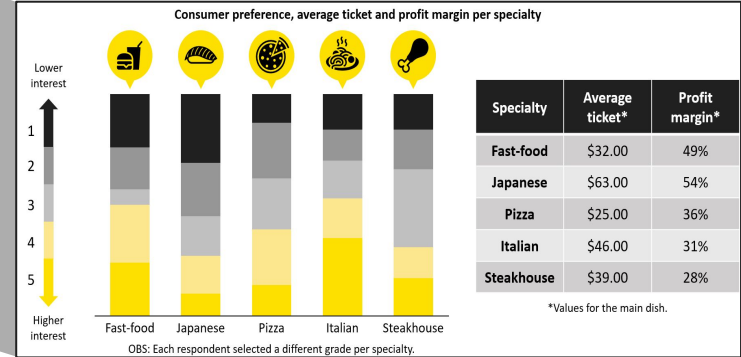
- If the interviewee does not mention the expected answers, you should induce him to brainstorm them. For example:
 - **What can make the restaurant attract more customers?**
More interest in a specific dish or specialty.
 - **What factors impact the restaurant financially?**
Costs and revenue / average ticket.
- When the candidate mentions consumer preferences and average ticket, show Exhibit 1 (page 66) and say:
 - A market survey was conducted with the city population about their preferences in terms of food specialties. Each respondent answered a level of interest ranging from 1 to 5, with 1 being the lowest and 5 the highest. The client also has data on the average ticket and the profit margin expected for each specialty.



Question I

Notes on exhibit I

The candidate should note that the **Italian** and the **fast-food** specialty have the highest interest (considering levels 4 and 5), however, as the Italian specialty has an average ticket around 1.5x higher, this is the better option. The Italian specialty is also the one with the least percentage of people with lower interest (considering levels 1 and 2). So, the interviewee should **choose the Italian specialty**.



Important

The candidate should **not decide** the best specialty **based on the profit margin** or the average profit (= average ticket x profit margin) as the client is driven by revenue. If the candidate chooses the wrong path, induce him/her to think about the client's main parameter of opening the restaurant or not, which is having, at least, \$3.5 million of annual revenue.

If the interviewee chooses the wrong specialty, you should ask the candidate to explain the decision and guide the candidate to the right answer. However, if the interviewee insists, let him/her continue with the wrong specialty and give this feedback at the end.



Question 2

Ask the candidate

Now, the client wants to decide which zone is the best for setting up the restaurant. What information would help you to best structure and support your recommendation to the client?

Notes on question 2

It is ideal to choose the zone that offers the highest revenue and the lowest cost. Therefore:

- To help the revenue analysis: answers such as the number of inhabitants, the income level, interest in the specialty, and frequency of restaurant visits in each zone are expected;
- For costs: the candidate is expected to ask about costs that vary depending on the zone chosen.



Question 2

Guidance for the interviewer

- If the candidate does not mention important points, you should induce him/her to quote them, for example:
 - **What can change from one zone to another, favoring or getting in the way of the installation of the restaurant?**
- If the candidate mentions points such as infrastructure, logistics, violence rates, gastronomic hubs or others, say there are no information about them.
- The candidate may analyze first revenue and then costs or vice-versa.
 - **When the interviewee mentions points related to the revenue analysis, show Exhibit 2 (page 67).**
 - **When the candidate mentions points related to costs, ask the following brainstorming question:** Which costs do you imagine would vary according to the zone where the restaurant is located?
 - **When the interviewee mentions rent, show Exhibit 3 (page 68).** If the applicant mentions any other costs - including initial investment - explain that they are not expected to vary by zone, including initial investments.



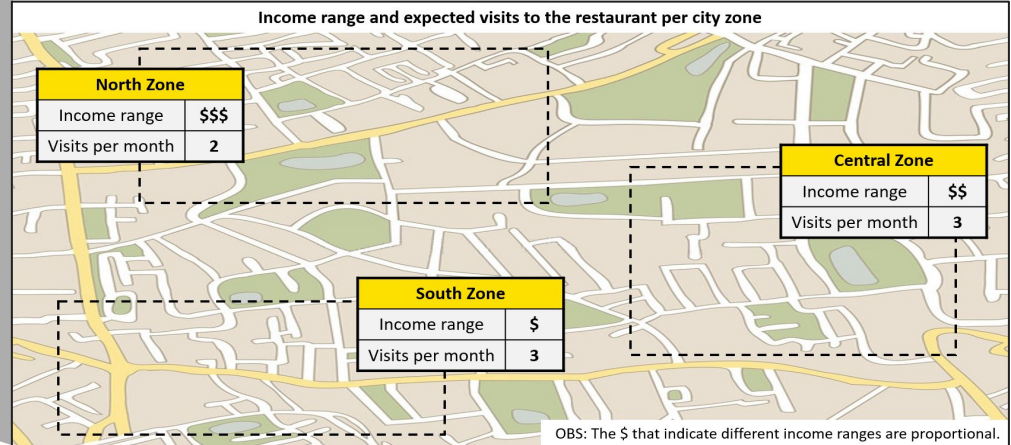
Question 2

Notes on exhibit 2

Revenue analysis

- North Zone: \$\$\$ (3) * 2 visits = 6
- Central Zone: \$\$ (2) * 3 visits = 6
- South Zone: \$ (1) * 3 visits = 3

Thus, at this point, the candidate should rule out the South Zone.

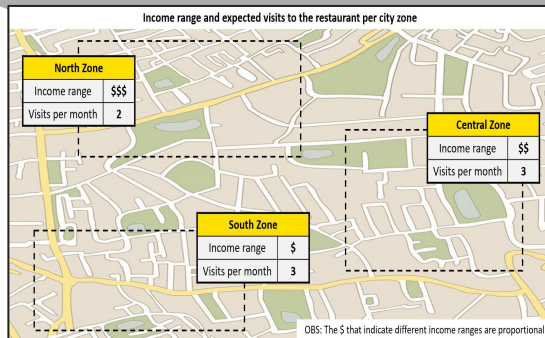




Question 2

Notes on exhibit 3

The **North Zone** should be **discarded** as an option for the installation of the restaurant because of its higher rental cost per square meter compared to the Central and South Zones.



Conclusion on question 2

If the candidate started with revenue analysis: the South Zone was discarded by the income and frequency criteria, and, as the Central Zone has a lower rental cost than the North Zone, **the Central Zone should be chosen.**

If the candidate started with costs analysis: the North Zone was discarded by the rental cost criteria, and, as the Central Zone has a richer population than the South Zone, **the Central Zone should be chosen.**

NOTE: If the interviewee does not get to the correct zone to open the restaurant, you should ask the candidate to explain the decision and **guide the interviewee to the right answer.** However, if the candidate insists, let him/her continue with the wrong zone and give this feedback at the end.



Question 3

Ask the candidate

What costs do you imagine such a restaurant would have, besides rent?

Notes on question 3

- This is another **brainstorming question!**
- The candidate is expected to mention costs such as employees, supplies, utilities (electricity/water/gas), marketing, and taxes.
- A good candidate will also think about initial investment and also break it down into:
 - **Fixed costs:** rent, labor, maintenance and marketing;
 - **Variable costs:** food & beverages, utilities (electricity/water/gas) and taxes.
- After these are mentioned, the interviewer should either give the number (all costs should be considered fixed) or urge the candidate to quote other costs.



Question 3

Calculation

The costs will be given in annual figures:

- **Rent:** \$170.00 / m² per month x 100 m² x 12 months
 - \$204 K per year
 - The rental cost per square meter is given to the candidate in Exhibit 3. If he/she does not remember this value, tell him/her the number, but make sure you give this feedback in the end.
- **Labor:** \$550 K per year
- **Food & beverages:** \$680 K per year
- **Maintenance:** \$50 K per year
- **Utilities (electricity/water/gas):** \$180 K per year
- **Marketing:** \$40 K per year
- **Taxes:** \$796 K per year

Total annual cost: \$2.5 M

Initial investment (if the candidate asks): \$1.2 M (+ \$2.5 M of annual costs, resulting in \$3.7 M in year 1)



Question 4

Ask the candidate

Now that you have selected the best restaurant's specialty and location for the business, the client would like to know how many people would come to the restaurant per day.

Notes on question 4

- This is an **estimate question!**
- The candidate must use data from the previous questions, so he/she should have written it down. In addition, the interviewee should ask for the absolute size of the population, think about income restriction, days of operation, finding the number of customers per day.
- When asked by the candidate, provide each information on the right side of this page.



Question 4

Calculation

For the Central Zone:

- **Total population:** 8,000 people
- **Income restriction:** 60% could afford to go to this restaurant
- **Interest:** 50%
- **Frequency (exhibit 2):** 3 visits per month
- **Days of operation:** the restaurant will operate from Wednesday to Sunday
 - The candidate should notice the restaurant will operate 5 days per week.
 - For approximation, consider 4 weeks per month

Thus: $(8,000 \times 60\% \times 50\% \times 3) / (5 \times 4) = \mathbf{360 \text{ customers per day}}$

If the candidate has chosen another zone previously, you may consider the **same data** for the public estimate, **except frequency**.

In this case, the interviewee is expected to find the same 360 customers per day for the South Zone and 240 for the North Zone.



Question 5

Ask the candidate

Finally, the client would like you to estimate the revenue and the profit the restaurant would earn per year and for you to come up with a recommendation about opening the business or not. Also, he would like you to sum up the main decisions taken during the case.

Notes on question 5

- **To estimate the revenue:** the candidate should calculate the average ticket per visit and multiply it by the number of customers per day and the number of days of operation per year to find the expected revenue.
- **To estimate the profit:** the candidate should consider the expected revenue and costs previously calculated.



Question 5

Calculation

Estimate of the annual revenue:

- **\$46** per main dish in the Italian restaurant (from Exhibit 1)
- **\$14** spent with drinks, appetizers and desserts per customer per visit
 - Just tell the candidate this value if asked.
 - Consider this value to be the same for all specialties and zones.
- Total average ticket: $\$46 + \$14 = \mathbf{\$60}$ per customer per visit
- So: $360 \text{ customers} \times \$60 = \mathbf{\$21,600}$ per day
- Thus: $\$21,600 \times 20 \text{ days/month} \times 12 \text{ months} = \mathbf{\$5.184 M}$ per year

Estimate of the annual profit (total revenue – total costs):

- $\$5.184 \text{ M} - \$2.500 \text{ M} = \mathbf{\$ 2.684 M}$
- Year 1 only (if the candidate has considered initial investment costs): $\$ 5.184 \text{ M} - \$ 3.700 \text{ M} = \mathbf{\$ 1.484 M}$



Conclusion

Recommendation

- **The client should open the restaurant**, as the expected annual revenue is above \$3.5 million, which is his financial target.
- The restaurant **will be profitable**, as the expected annual profit is **\$1.484 M** in the first year and **\$2.684 M** from the second year on.
- The restaurant should serve **Italian food** and be located in the **Central Zone**.
- A good candidate may also say the **profit margin**, which is, approximately, **29%** for year 1 and **52%** for year 2 on.

Risks

- The specialty analysis does not consider any market trends, so the best specialty for the business may be different in the near future.
- The market research used does not acknowledge interest per specialty by zone. The region analysis also does not consider if there is a good infrastructure in the neighborhood or if there is some sort of restaurant hub.
- Market research considers only a sample of the market and may not reflect the actual demand accurately.
- No competitor analysis was performed.
- The analysis considers that the restaurant would already operate with a high and stable number of customers from day one.

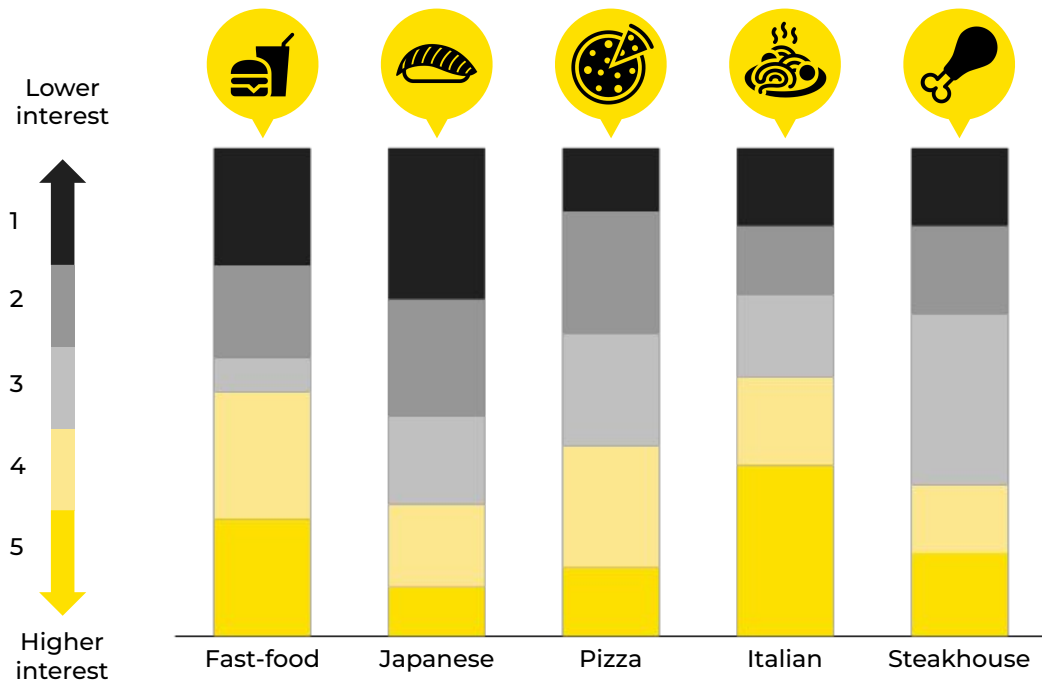
Next Steps

- Conduct more targeted research to confirm the estimates made, only in the Central Zone, and ask about interest and willingness to pay in an Italian restaurant.
- Make an analysis of the competitors in the zone chosen for the installation of the restaurant.
- Consider opening a double-specialty restaurant, meeting different consumer preferences.
- Search potential investors and choose the property where the restaurant will be opened.



Exhibit 3

Consumer preference, average ticket and profit margin per specialty



OBS: Each respondent selected a different grade per specialty.

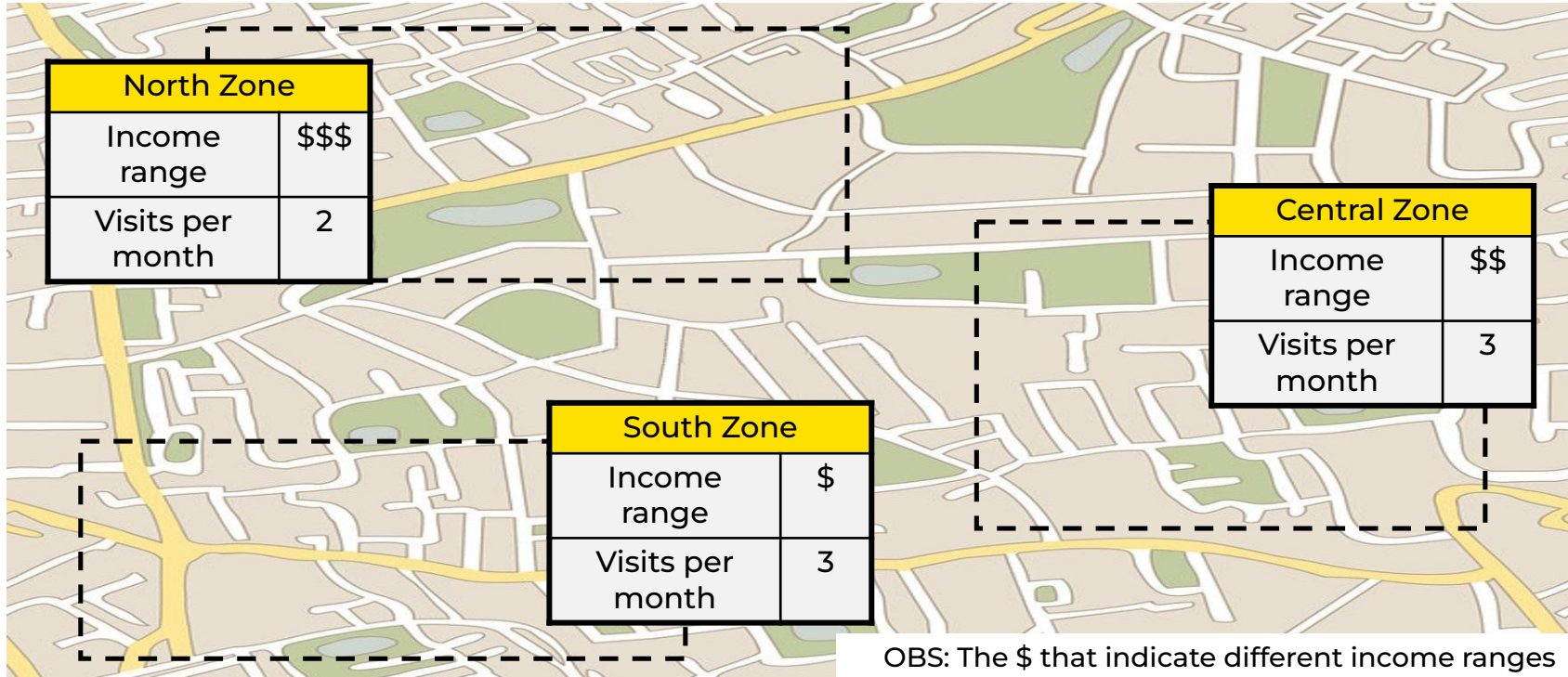
Specialty	Average ticket*	Profit margin*
Fast-food	\$32.00	49%
Japanese	\$63.00	54%
Pizza	\$25.00	36%
Italian	\$46.00	31%
Steakhouse	\$39.00	28%

*Values for the main dish.



Exhibit 2

Income range and expected visits to the restaurant per city zone

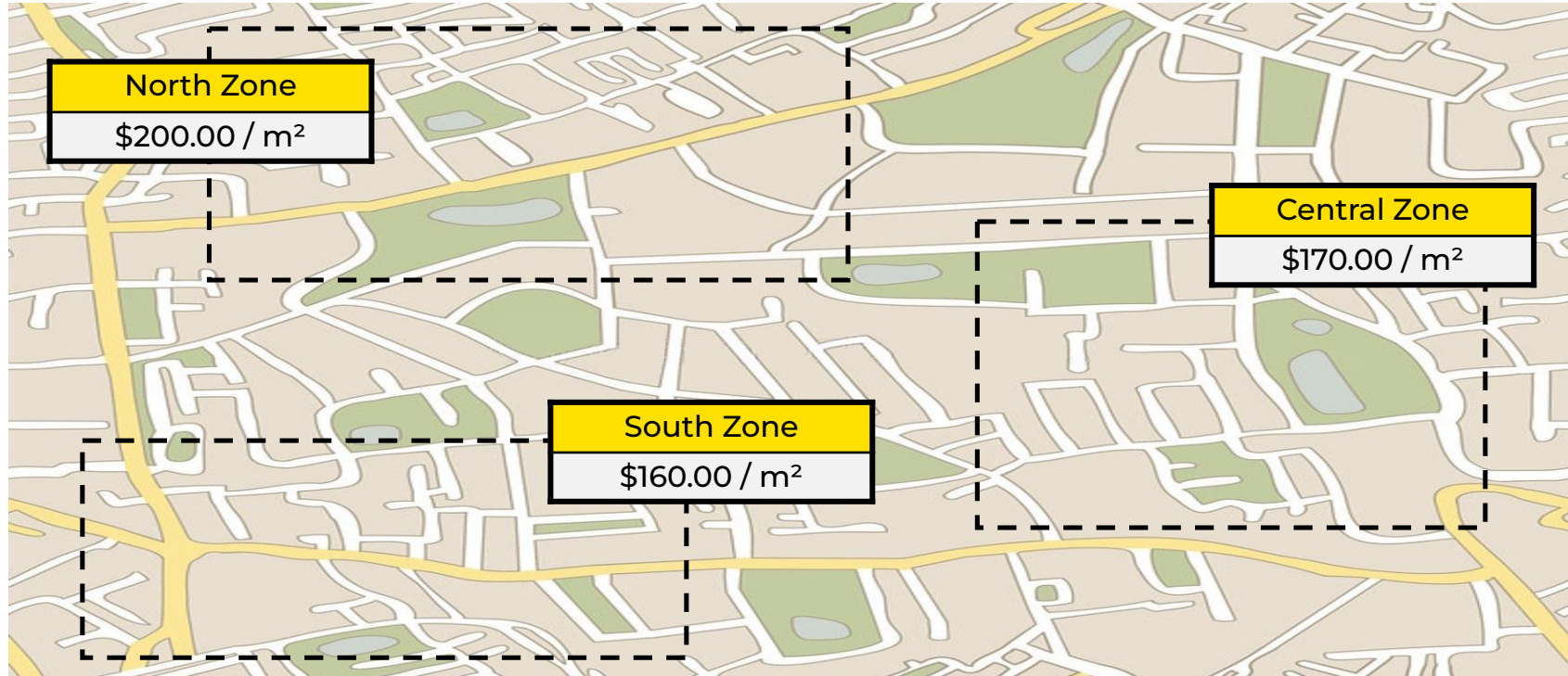


OBS: The \$ that indicate different income ranges are proportional.



Exhibit 3

Monthly rent value per square meter in each city zone





Case 6: NAELC Energy

Difficulty: medium

Sector: renewable energy

Type: market entry

Guidance: candidate-led





Introduction

Problem Statement

Your client, NAELC Energy, is an energy company which operates in the US. Due to the growth of the renewable energy market and popular pressure for more sustainable sources, the CEO of this company wants to know **which renewable method he should invest in.**

Structure

The candidate should analyze **revenue changes** (Exhibit 1), **competitors share of the market** (Exhibit 2) and **clients current interest on each market analysed** (Exhibit 3) and connect all the information gathered to give the final recommendation.

Information to be provided upon request

- NAELC Energy, nowadays, produces fossil energy sources and distributes to companies all over the US.
- The possible renewable energy sources to start producing are: solar, biomass and wind power.
- NAELC Energy wants to invest in only one method and focus on offering a high quality service to stop producing non-renewable energy sources gradually.
- The client has enough resources to enter the market.
- The client's goal is to increase the company's profit.



Structure

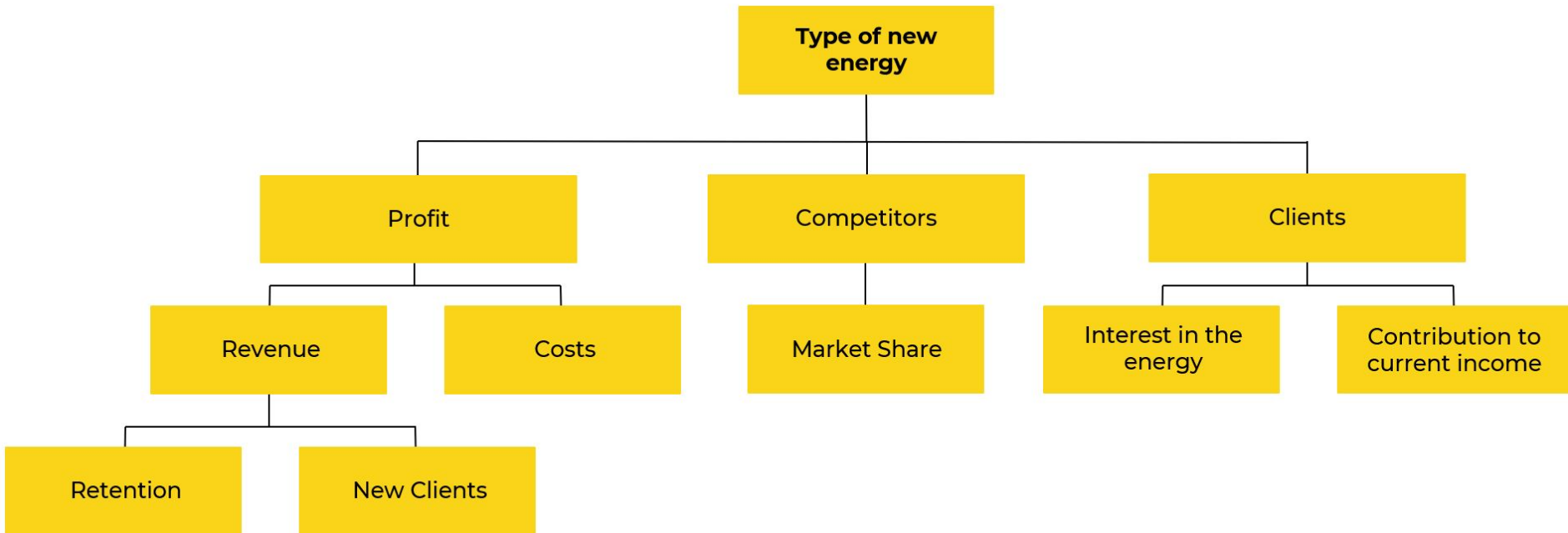




Exhibit I

Calculation

Expected Revenue:

Revenue (2020) x Retention (%) x New Clients (%)

- **Wind Energy:** $2,500 \text{ M} \times 0,85 \times 1,35 = 2.9 \text{ B}$
(aprox.)
- **Solar Energy:** $2,500 \text{ M} \times 0,80 \times 1,40 = 2.8 \text{ B}$
- **Biomass Energy:** $2,500 \text{ M} \times 0,90 \times 1,20 = 2.7 \text{ B}$

Takeaways

- Revenue would **increase in all cases**.
- Wind energy has the **highest retention rate** and grows at an accelerated rate.
- Biomass has a lower expected growth than the others.
- *The candidate should realize that are other factors to be analysed and the interviewer must give the information, if asked.*

Total Revenue (2020)	2,500 (in \$M)	
	Retention (%)	New Clients (%)
Eolic Energy	85%	35%
Solar Energy	80%	40%
Biomass Energy	90%	20%

*Costs remain the same



Exhibit 2

Takeaways

- The wind energy market has **fewer competitors**, however three major players are established with 96% of the market share.
- The solar and biomass markets are very similar and have **more competitors with a minor share of the market**.
- After the analyses, the candidate should realize that entering in the wind energy sector is **not a good strategy** because it has bigger players and is a concentrated market.
- The candidate should also **focus on the solar and biomass markets**, since they have a competitive business.

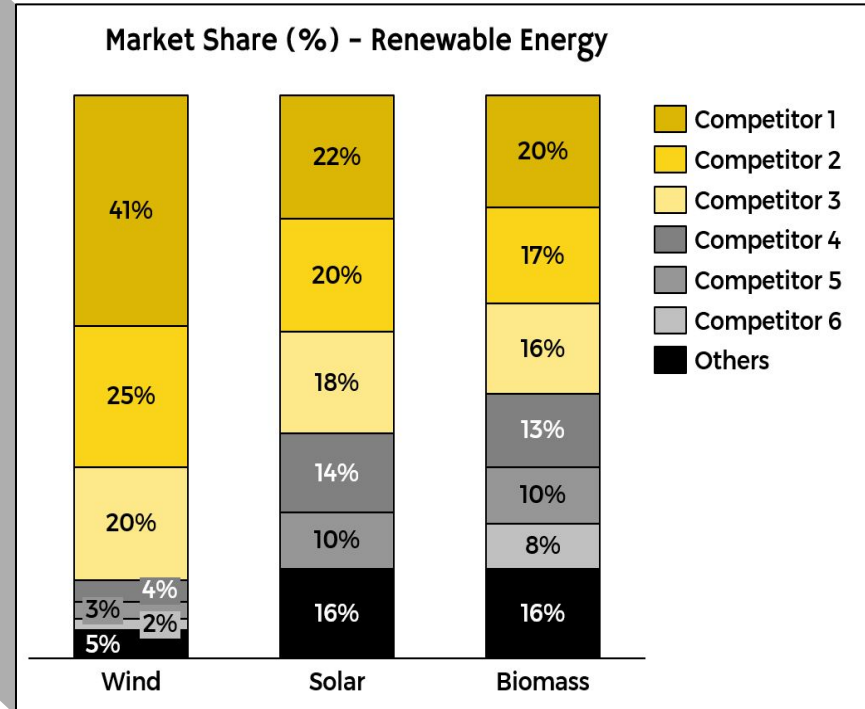
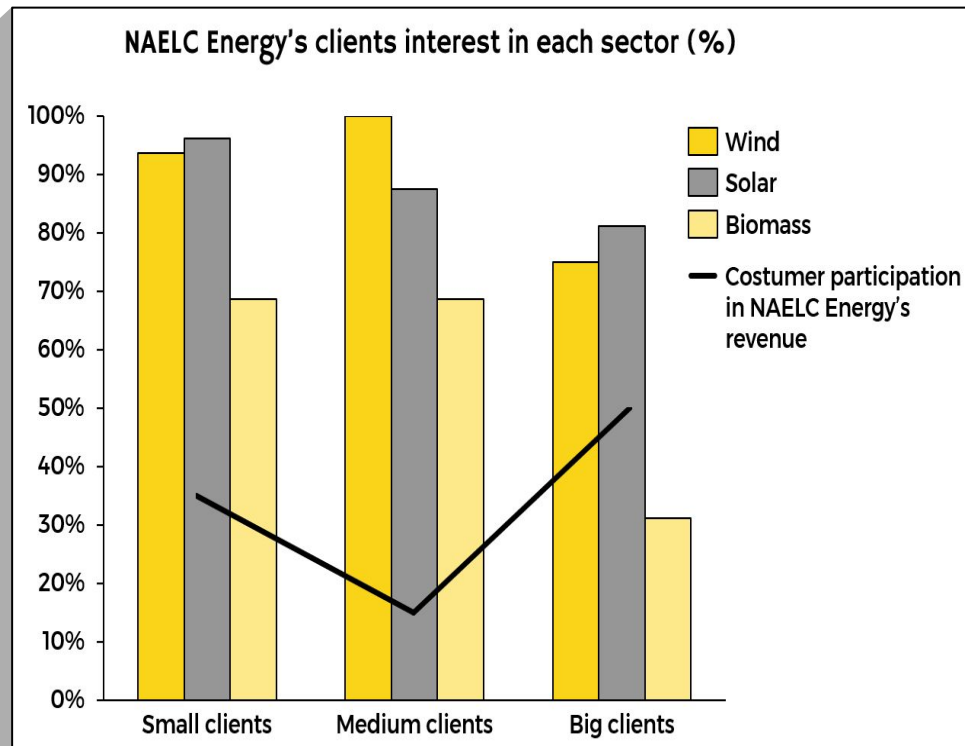




Exhibit 3

Takeaways

- None of the three types of company have interest in buying energy from biomass sources, becoming an **unattractive market**.
- Small clients have **similar interest** in solar and wind energy, meanwhile, medium companies have **more interest** on investing in wind sources. However, they are the clients with the **smaller share** of the NAELC Energy's gains.
- Big clients represents the bigger participation in the company's revenue and have more interest in solar and wind energy, making them the **most attractive choices**.





Conclusion

Recommendation

PowerCo should invest in **solar energy**, because:

- it brings a **good financial return (2.8 B)** to the company.
- **this market is not concentrated**, which indicates a competitive business and an easier sector to get in.
- clients who have a bigger share of NAELC's receipt are **more interested** in solar sources.

Risks

- The renewable energy market is constantly evolving, so more attractive energies may emerge.
- Transition costs weren't analysed.
- Since the company doesn't have experience on renewable sources, it could be risky to start producing.
- There are other renewable sources.
- Lack of synergy with the current model.
- It depends on climate conditions.

Next Steps

- Analyze the possibility of investing in more than one sustainable market.
- Find partners with sustainable interests and increase revenue.
- Establish a transition plan that minimizes financial and resources losses.
- Invest in a crew specialized in solar energy sources and how to implement them.



Exhibit I

Total Revenue (2020)	2,500 (in \$M)
-----------------------------	-----------------------

	New clients (%)	Capacity to attend demand (%)
Wind Energy	35%	85%
Solar Energy	40%	80%
Biomass Energy	20%	90%

***Costs remain the same**



Exhibit 2

Market Share (%) - Renewable Energy

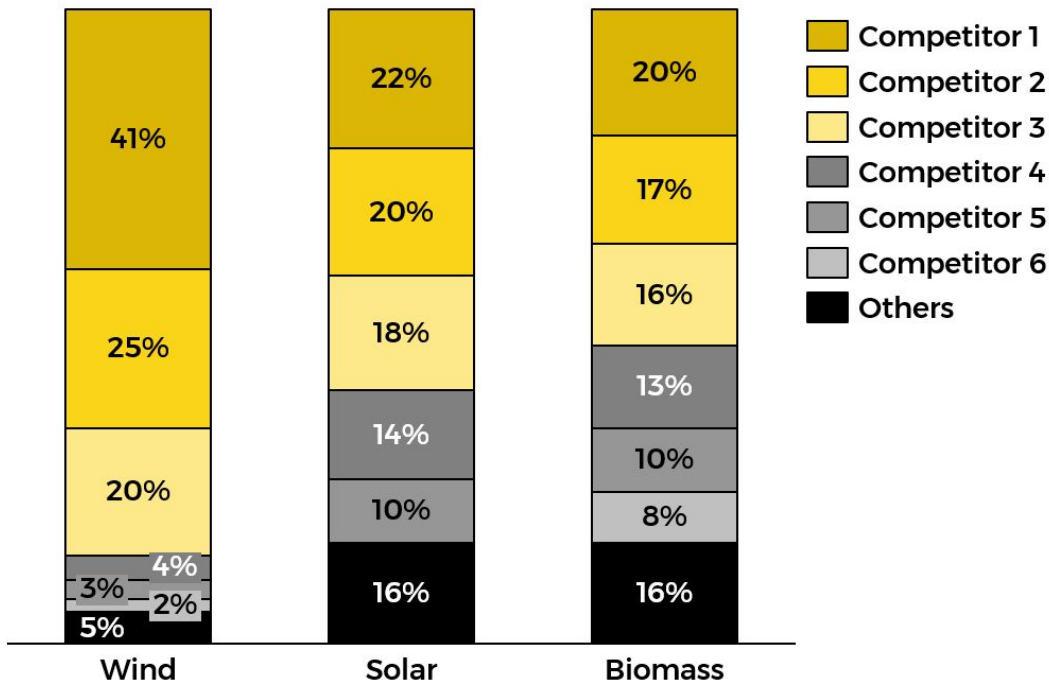
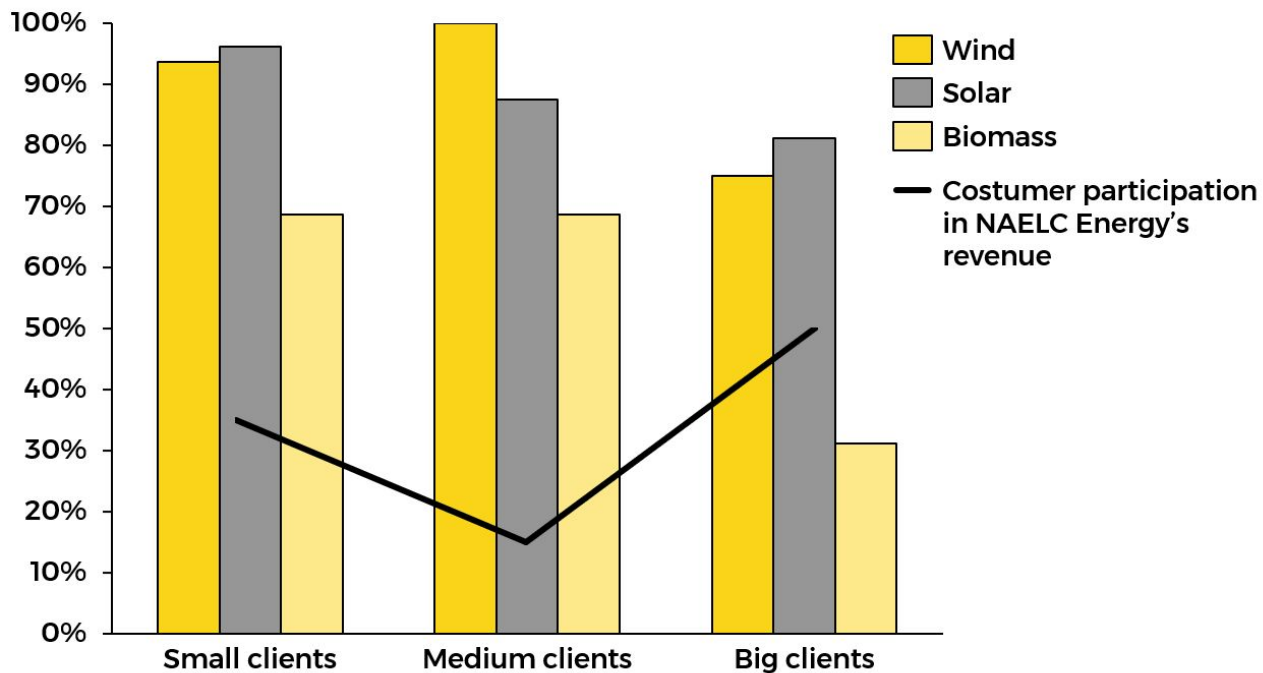




Exhibit 3

NAELC Energy's clients interest in each sector (%)





Case 7: Lout

Difficulty: hard

Sector: food

Type: M&A

Guidance: candidate-led





Introduction

Problem Statement

Your client is Lout, a chocolate factory seen as a reference in the food sector and that has been dealing with a wide range of customers since it was founded in the US. Currently, the owners are seeking to have greater control over their production and started considering the **acquisition of a milk producer**. Therefore, the CEO of Lout would like to know **which company should be acquired and why**.

Structure

The candidate should analyse **the clients** involved in this market entry, **the synergies** (Exhibit 1) and also **the competitors position** in the milk market (Exhibit 2).

Information to be provided upon request

- There are four players being analysed: A, B, C and D.
- Take into consideration that Lout is willing to pay as much as it's necessary for the acquisition.
- The client does not have a specific goal. Just acquiring the best company for Lout. **(If the candidate asks what makes a company better, tell him/her to brainstorm it)**
- Lout intends to start selling milk after the acquisition. She will sell not only chocolate but also milk.

Attention!

If the candidate starts to develop a quantitative analysis with a focus on financial aspects, it is important to **redirect his/her reasoning**.



Structure

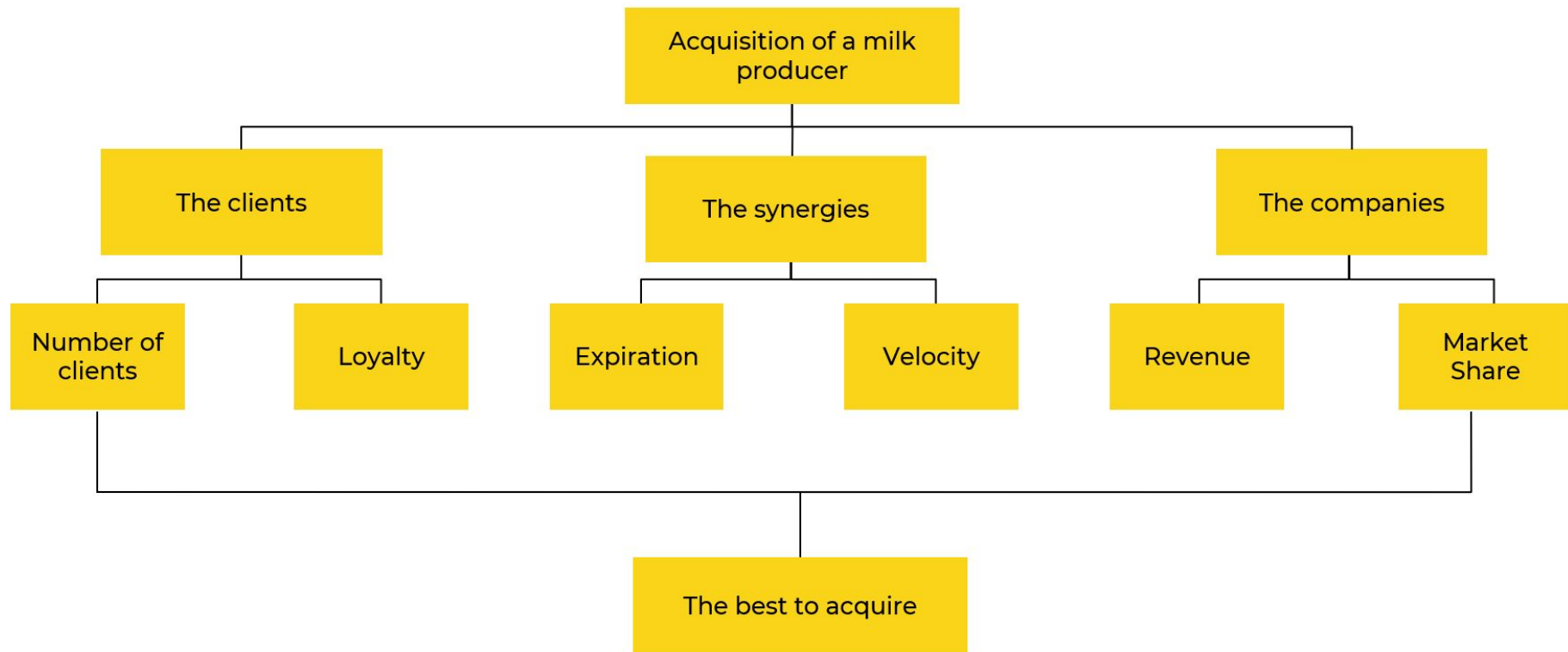




Exhibit I

Structure

The candidate should ask for informations about the **sales** and the **clients** of the possible companies to understand in which company **this entry would be more profitable**. Therefore, it is important to consider:

- Potential new clients
- Clients loyalty

Takeaways

- Although D has the most loyal customers, it does not have a considerable number of clients;
- The three remaining companies show different scenarios and it is important to balance the information given:
 - A and C have **more clients**, but their loyalty is not the most significant;
 - B has a great **number of clients** and one of the best **loyalties**.

Milk Companies and Clients

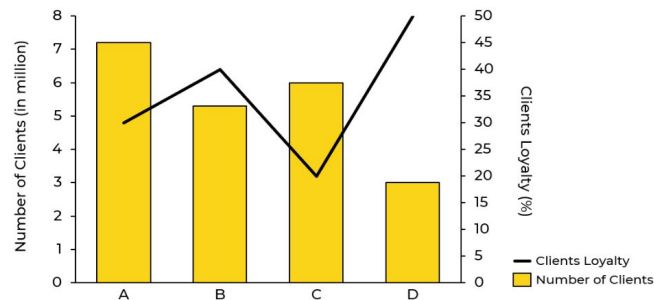




Exhibit I

Structure

It is also important to consider how are **Lout's impressions** of the companies that are being analysed. All of them are milk producers and have already provided their services to Lout.

Takeaways

- Company **D** is the one which satisfied Lout interests and perspective **the most**;
- Company **C** is not attractive considering Lout's low satisfaction;
- Companies **A** and **B** should not be immediately discarded, but they **do not** appear to better attend Lout's impressions.

Lout's satisfaction with the companies

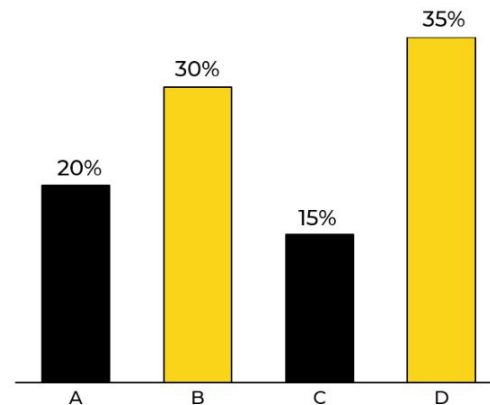




Exhibit 2

Synergies

Now it is necessary to define **which synergies fit better** with the statement.

There are **four companies** being considered, each one with their **specific characteristics**.

- The time D, C and B take to delivery their milk **can be risky**:

Remained time to consume each milk:

A: $52 - 40 = 12$ days **B:** $68 - 60 = 8$ days

C: $27 - 20 = 7$ days **D:** $45 - 40 = 5$ days

- B is **the closest** to Lout's factory, so the transportation problem is easier to be solved;
- In this case, **A** is the one that **fits the best**, but it is **not the only one** to be considered.

Milk expiration date (after production)	
Companies	Expiration (days)
A	52
B	68
C	27
D	45

Transportation and logistics		
Companies	Distance milk - Lout's factory	Velocity
A	600 km	Medium
B	350 km	Slow
C	470 km	Fast
D	530 km	Medium

***Fast:** 20 days; **Medium:** 40 days; **Slow:** 60 days



Exhibit 2

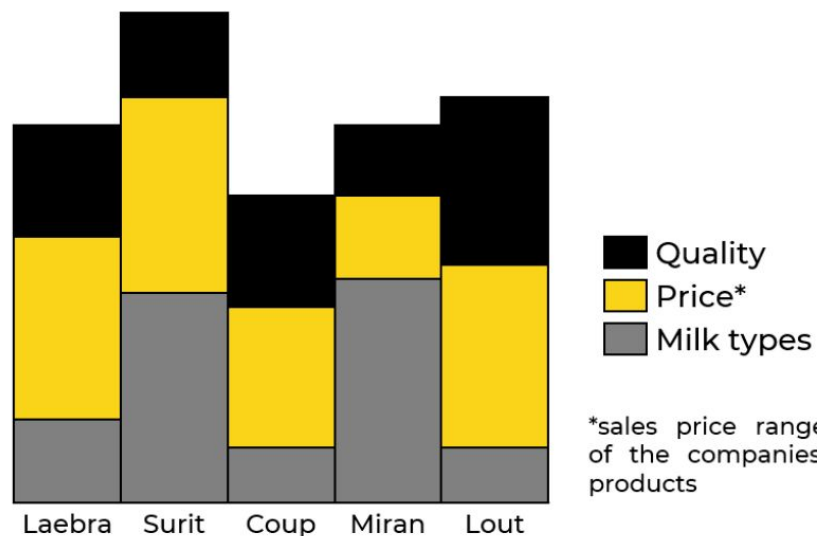
Synergies

Now considering aspects such as **quality**, **price** and **milk types** of the companies, the candidate should notice that:

- D has the **worst quality**, but more milk types and also lower prices;
- C and B are not completely different as they have **similar situations**;
- D's price **does not fit** with Lout's current model;
- A **has not greater quality**, but it has more milk types and better quality compared to D;

About the sales price range, the candidate should understand that there are **no positive side** on acquiring a company with prices considerably lower than Lout.

The companies and possible synergies



*sales price range of the companies' products



Exhibit 3

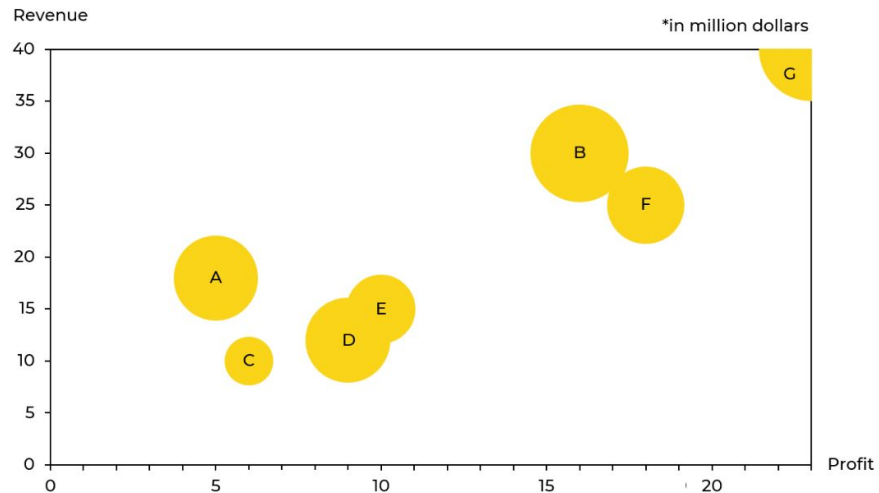
Companies

After analysing possible synergies, the candidate should take more information about the two remaining companies and **compare them financially**.

- A has a significant market share, but it has no considerable revenue to use this benefit;
- B is only behind one company in the market;
- There are other milk companies - better positioned - that have not been considered.

Taking the graphic and the data provided into consideration, it is clear that **B is the best fit for Lout**.

Milk companies profit and revenue





Ranking

Companies ranked after exhibit 1

- 1° B
- 2° A
- 3° D
- 4° C

Companies ranked after exhibit 3

- 1° B
- 2° A
- 3° D
- 4° C

Companies ranked after exhibit 2

- 1° A
- 2° B
- 3° C
- 4° D



Conclusion

Recommendation

Your client **should acquire B**, because:

- **clients loyalty** is one of the best in the analysed sector;
- B has some **good synergies available** and is also **well-seen** by Lout's team;
- B has the **biggest revenue and market share**.

Risks

- The acquisition does not bring the expected and positive return to the company;
- There are no evidence that another company would not have the same idea and acquire another company this way;
- There are no information about Lout's competitors.

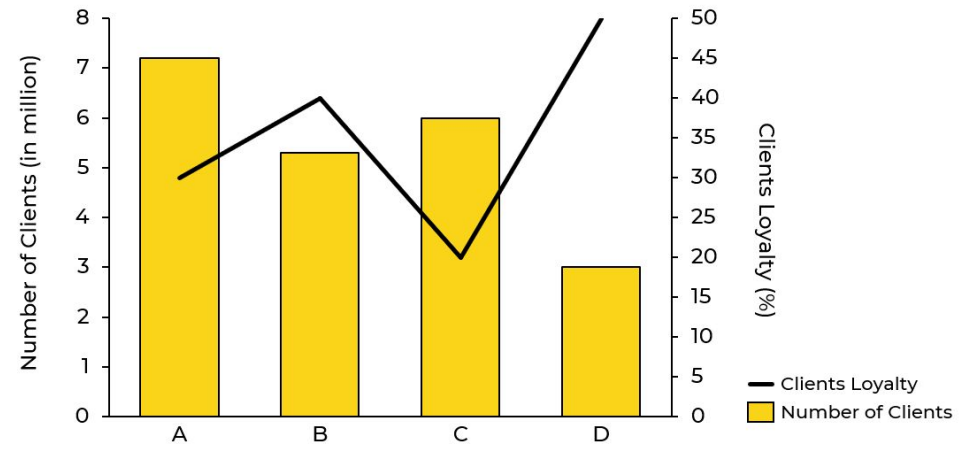
Next Steps

- Study if that is no other option of company to invest in. As demonstrated, there are some companies that are not taking into consideration;
- Sign the contract with B;
- Study how to truly incorporate B's way of production on Lout's daily routine.



Exhibit I

Milk Companies and Clients



Lout's satisfaction with the companies

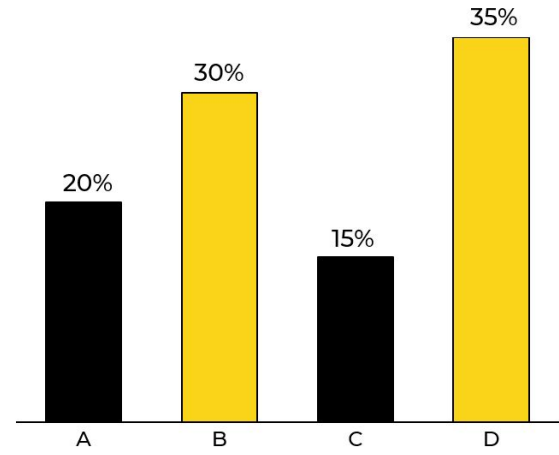




Exhibit 2

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***Fast:** 20 days; **Medium:** 40 days; **Slow:** 60 days

The companies and possible synergies

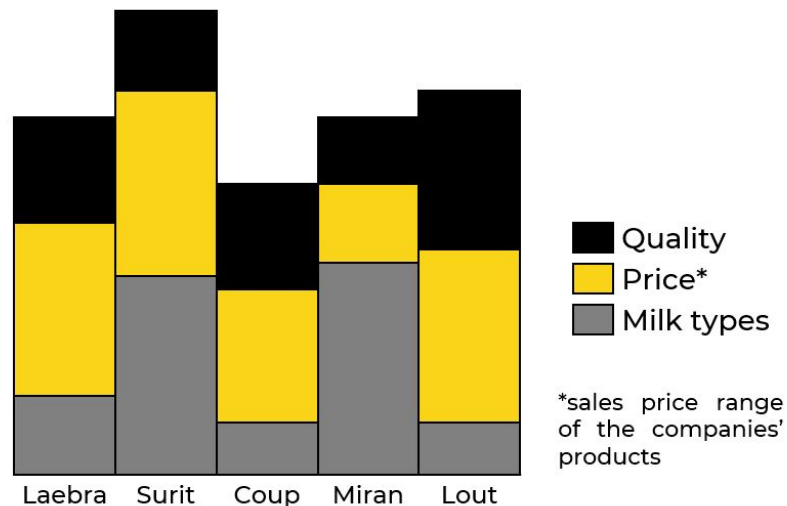
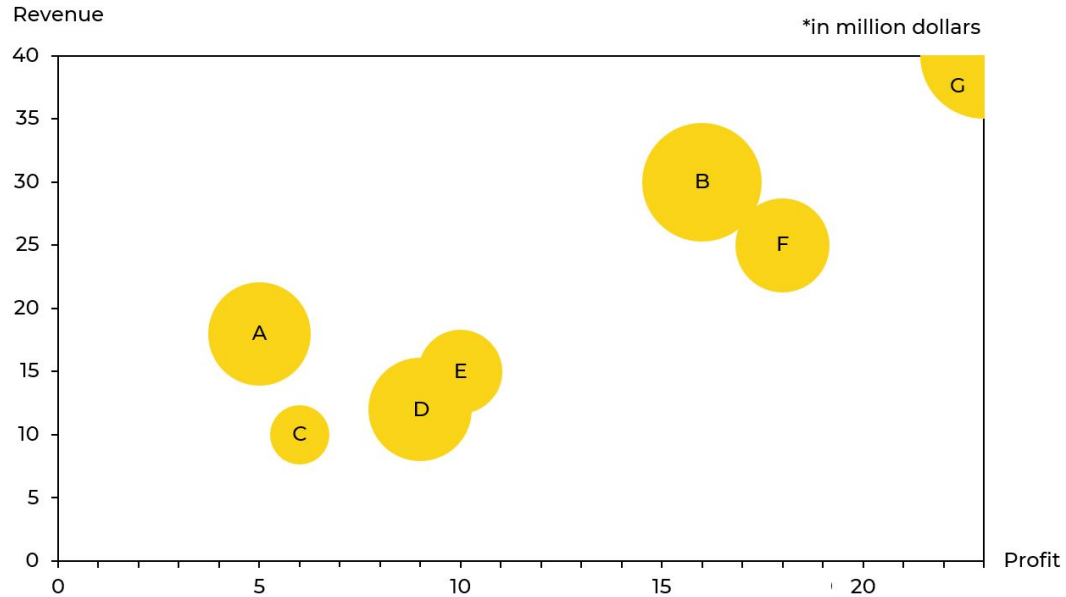




Exhibit 3

Milk companies profit and revenue



Case 8: SC. ORE

Difficulty: medium

Sector: mining

Type: growth

Guidance: interviewer-led





Introduction

Problem Statement

Your client is a Brazilian mining company, whose activities consist of research, exploration and extraction of minerals present in the subsoil. Now, SC. ORE & Co wants to explore the possibility of **acting in another country or not**. What should they analyze when choosing the country?

Questions for the candidate

- Which mineral do you think is the best option to mine in another country? **(Exhibit 1)**
- What are the two best countries? **(Exhibit 2)**
- Thinking about the client's goal, what can we analyze now? **(Exhibit 3)**

Information to be provided upon request

- The research phase refers to preliminary geological studies and reconnaissance. Exploration is the phase of studying and evaluating of the ores. And extraction is the industrial process of removing the ores from the subsoil.
- There would be a logistical cost for transporting the minerals to the headquarters in Brazil.
- The company's main products are iron, nickel, coal and copper.
- The client wants to achieve a 20% operating margin in 2 years, but he is flexible about this goal.



Exhibit I

Ask the candidate I

Which mineral is the best option to mine in another country?

Takeaways

- **Iron** is the most expensive ore to mine with a \$760 M cost and has the best **opportunity cost**, therefore the client should analyse this mine in other countries.
- **Extraction cost is the higher** because it is an industrial process.
- Nickel is the cheapest ore to mine with \$690 M.

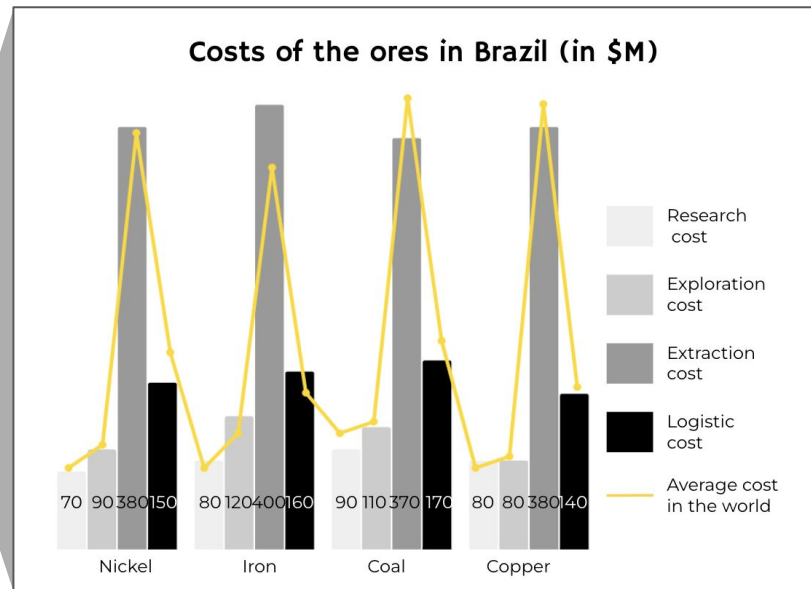




Exhibit 2

Ask the candidate 2

Select the two countries with the best possibilities.

Takeaways

- **US and China are the best options.**
- US has the **second best** costs: \$425 M, the **best** transportation time and **high** cultural compatibility.
- Although China has a higher cost = \$572 M, it has the best market share and mining cultural compatibility and a good transportation time.
- Transition cost is a one time cost.

	India	China	US	Russia	Australia
Operation cost (in \$M)	160	100	170	300	240
Logistics cost (in \$M)	230	450	220	380	430
Transition cost (in \$M)	28	22	35	25	30
Distribution of world ore production	7%	20%	12%	2%	3%
Transportation time	60h/ton of ore	42h/ton of ore	20h/ton of ore	50h/ton of ore	52h/ton of ore
Client's acceptance	70%	95%	89%	50%	58%



Exhibit 3

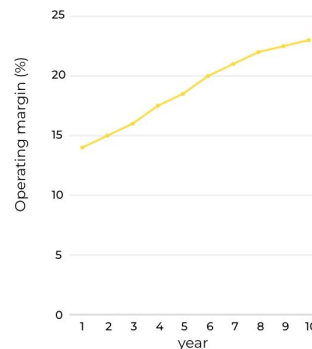
Ask the candidate 3

*Thinking about the client's goal, what can we analyze now?
Brainstorm strategies on how to achieve the client's goal.*

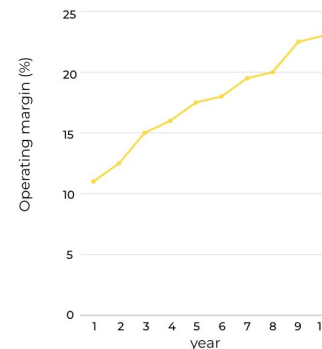
Takeaways

- **None** reach the client's goal of 20% profit margin in 2 years, but **the client is flexible** about the time of the return.
- **The US** is better because it has a stable growth and reaches 20% operating margin before China.
- In the long term the firm brings a satisfactory financial return.

Projected operating margin in the US



Projected operating margin in China





Conclusion I

Recommendation

You can tell him to mine **iron in the US** because:

- This ore has a **low cost** in this country;
- Offers the **bests conditions** compared to the others;
- The client **is flexible** about his goal;
- Has a **stable** operating margin growth.

Risks

- Does not reach the customer's main goal;
- We did not consider competitors;
- We did not consider inflation, or any rate;
- It is only a projection that the company would have a stable growth and would achieve 20% operating margin.

Next Steps

- Explore another country's market besides these ones, maybe a closer one;
- Analyse other ores further with taxes for example;
- Study the possibility of opening more factories in Brazil;
- Analyze other ways to increase profit such as cost reduction.



Conclusion 2

Recommendation

The best option would be to **mine iron in the US**. Although, taking the **safest path** we could tell him him not to enter this market because:

- **It doesn't** reach the client's main goal which is 20% profit in the firsts two years of the factory. It takes 4 years longer than expected;
- We are basing on a **projection** and it could be **too optimistic** a stable operating margin growth.

Risks

- In the long run he may end up losing money;
- Mining iron in Brazil is more expensive than in all other countries;
- Does not reach its goal of increasing profit;
- May have risks in our analysis such as the optimistic cultural compatibility;
- We didn't analyze other ways of entering the market, such as through a M&A.

Next Steps

- Analyze other countries further, therefore the logistics costs should be smaller;
- Analyze entering the market in other ways, such as through a M&A;
- Analyze other ways to increase profit, such as reducing costs;
- Analyze other ores.



Exhibit I

Costs of the ores in Brazil (in \$M)

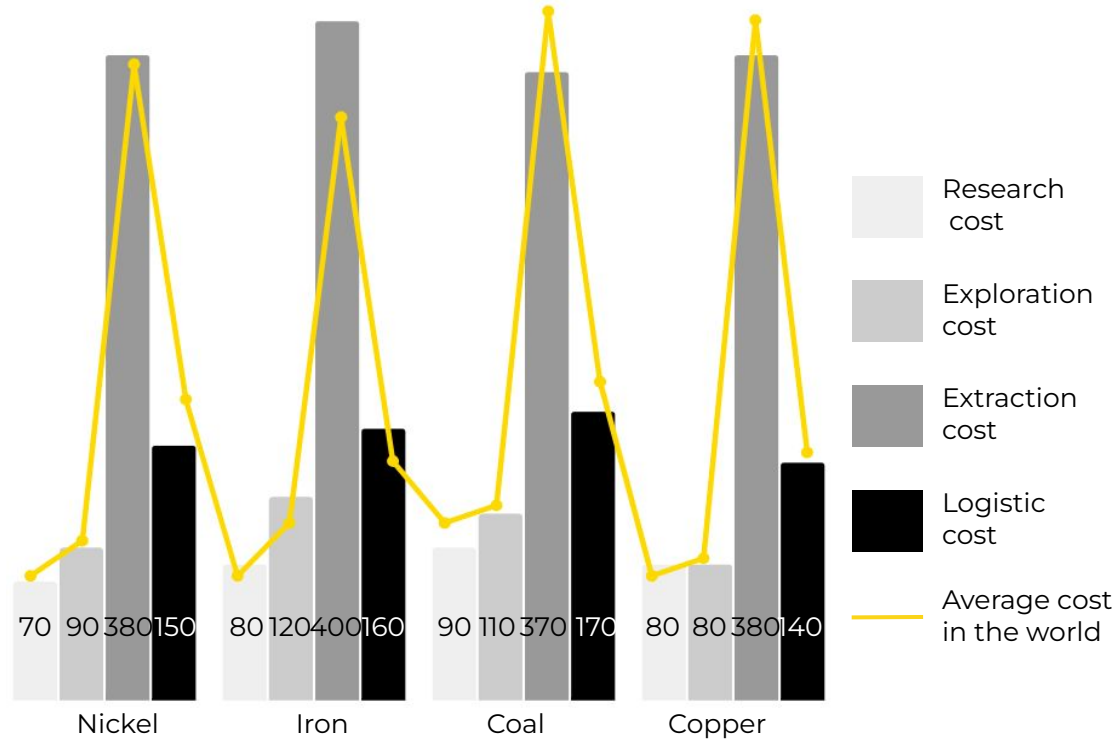




Exhibit 2

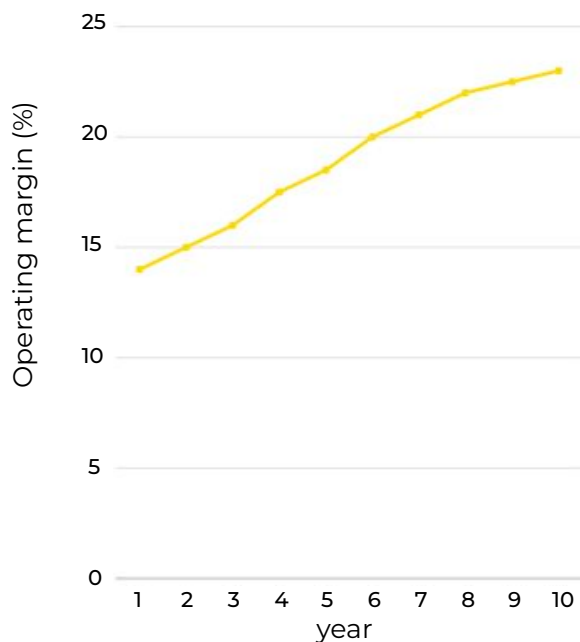
Iron mining in the countries

	India	China	US	Russia	Australia
Operation cost (in \$M)	160	100	170	300	240
Logistics cost (in \$M)	230	450	220	380	430
Transition cost (in \$M)	28	22	35	25	30
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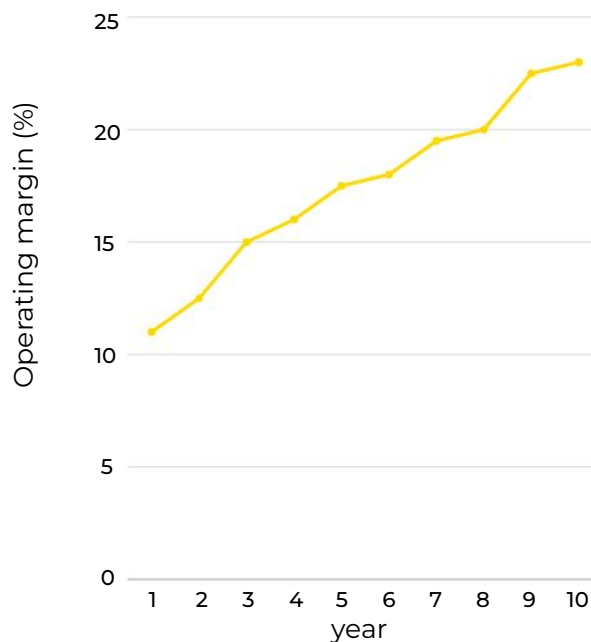


Exhibit 3

Projected operating margin in the US



Projected operating margin in China



Case 9: UK Private Post

Difficulty: easy

Sector: postal services

Type: market sizing

Guidance: candidate-led





Introduction

Problem Statement

Due to the recent growth of online shopping around the world, Transportation A.C., a British road freight company, decided to start carrying for large retailers, thus entering the private share of the postal market. To that end, the CEO of Transportation A.C. would like to know **how big this private market is**.

Structure

The candidate must structure a way to calculate the **total postal services' market** - considering business deliveries -, and then **take out the market share** that is already **taken by public companies**, such as the Royal Mail. After that, he/she should evaluate the result.

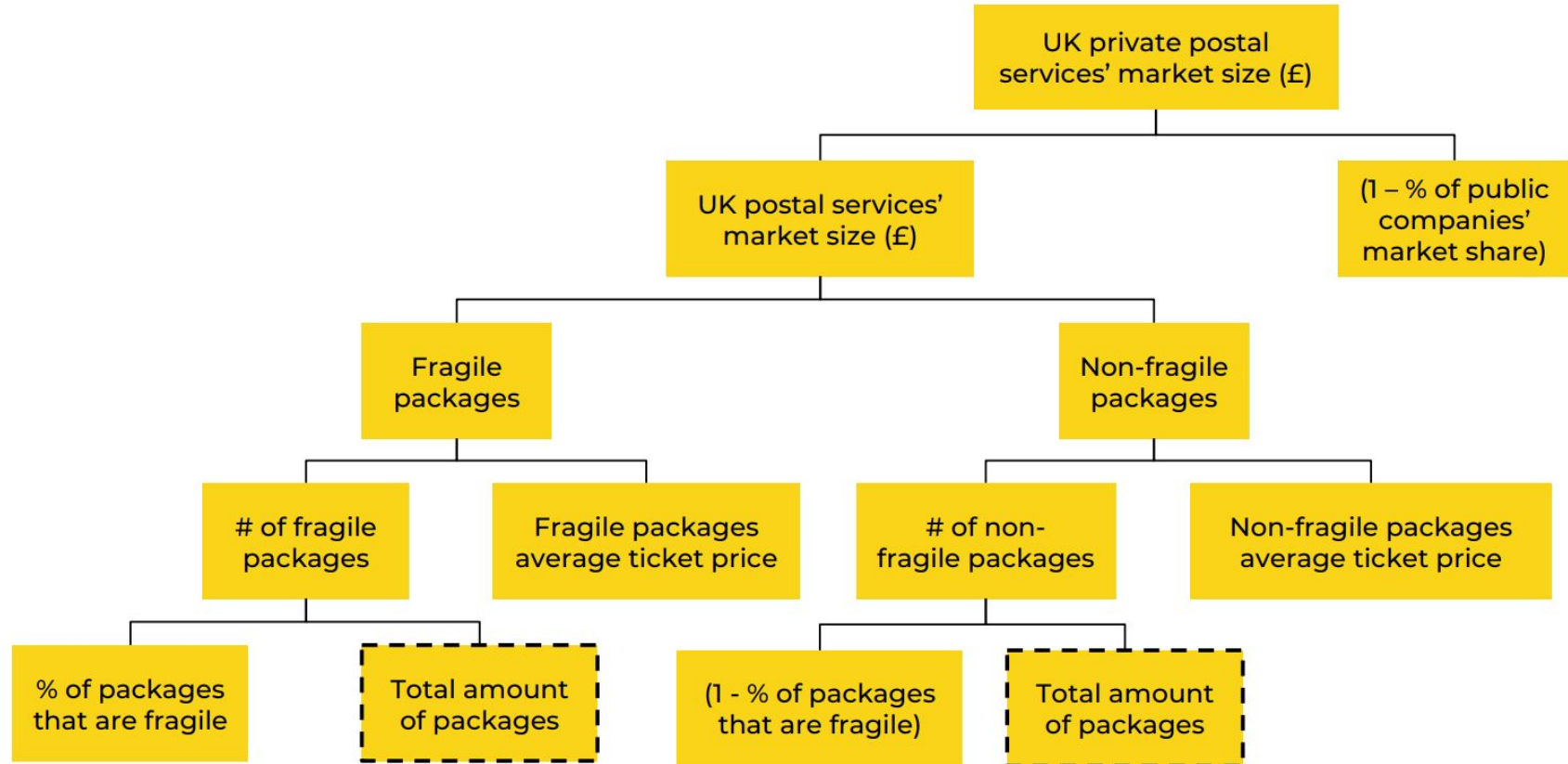
Information to be provided upon request

- AC's revenue comes exclusively from the shipment of orders bought by individuals from retailers.
- The candidate should consider orders sent by retailers to individuals, disregarding the share that is shipped by public post service companies.
- The client wants to know the annual revenue for the UK in pounds.
- There are shipments of 2 types of items: those considered fragile and non-fragile. Shipping non-fragile items costs £4 and shipping fragile items costs 75% more.

Case 9: UK Private Post - Page 2 of 7



Structure – part I

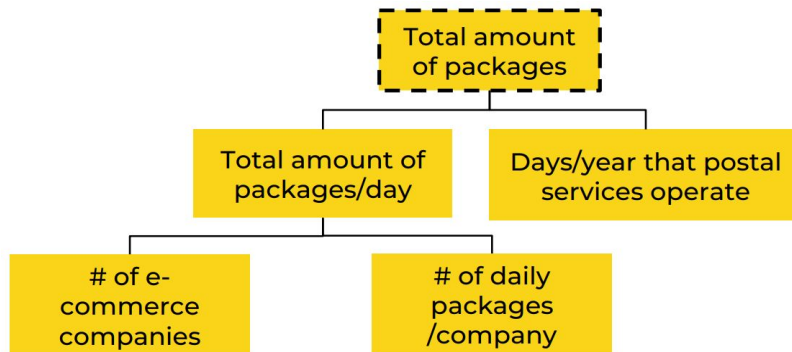




Structure – part II

Structure

The candidate must realize in the previous structure that he/she needs to know **the total amount of packages**. *The interviewer must induce him/her, if he/she doesn't do it by him/herself, to structure a way of estimating that value as well.* Check the recommended structure below:



Data to be provided upon request

- **# of e-commerce companies:** 120,000
- **# of daily packages/company:** 150
- **% of packages that are fragile:** 25%
- **% of public companies market share:** 45%
- **Days/year that postal services operate:** 355 days



Calculation – part I

Packages

- **Total amount of packages** = # of e-commerce companies x # of daily packages/company x days/year that postal services operate
- **# of fragile packages** = % of packages that are fragile x total amount of packages
- **# of non-fragile packages** = (1 - % of packages that are fragile) x total amount of packages

Calculation

- **Total amount of packages** = $120,000 \times 150 \times 355 = 6.4 \text{ B}$
- **# of fragile packages** = $\frac{1}{4} \times 6.4 = 1,6 \text{ B}$ (*notice that the 25% of fragile packages are the same as $\frac{1}{4}$*)
- **# of non-fragile packages** = $(1 - \frac{1}{4}) \times 6.4 = 4.8 \text{ B}$



Calculation – part II

Market size

- **Market size of fragile packages** = # of fragile packages x fragile packages average ticket price
- **Market size of non-fragile packages** = # of non-fragile packages x non-fragile packages average ticket price
- **UK Postal Services' total market size** = size of fragile packages + size of non-fragile packages
- **UK private Postal Services' market size** = UK Postal Services' total market size x (1 - % of public companies market share)

Calculation

- **Market size of fragile packages** = $1.6 \text{ B} \times 7/4 \times \text{£}4 = \text{£}11.2 \text{ B}$
(notice that 175%, which is the non-fragile price plus 75% to calculate the fragile package price, is the same as 7/4)
- **Market size of non-fragile packages** = $4.8 \text{ B} \times \text{£}4 = \text{£}19.2 \text{ B}$
- **UK Postal Services' total market size** = $\text{£}11.2 + \text{£}19.2 = \text{£}30.4 \text{ B} = \text{£}30 \text{ B}$ *(let the candidate round the result)*
- **UK private Postal Services' market size** = $\text{£}30 \text{ B} \times (1 - 0,45) = \text{£}16.5 \text{ B}$



Calculation testing

Testing candidate's confidence

To test the candidate's confidence, ask him/her (separately):

- "Are you sure of the result of your calculation?"
- "How would you evaluate if this market size is small, realistic or big?"

A great candidate should trust his/her own calculations, but also ask for some sort of data **to make a comparison**. If so, provide him/her with the information that **Germany's postal services' market size** is **£24 B** and that the **UK's population** correspond to **75% of the German's**.

Calculation

By calculating the proportion between the 2 market sizes and each population, he/she should realize that **the market size estimated for the UK is too small**.

- UK market size/Germany market size = British population/German population
 $16.5 \text{ B} / 24 \text{ B} = \text{population} / (3 \times \text{population} / 4)$
Let the candidate round 16.5 to 16: **$2/3 = 4/3$**

The market size estimated for the UK does not correspond well to the German market size. A great candidate will realize that the **market share** taken by public companies **might be different on both countries**.



Conclusion

Recommendation

The UK private postal services' market size is **£16.5 billion**, which comparing to a similar country like Germany **represents a smaller market potential.**

Risks

- The estimated market size might be underdone due to a low amount of sales/company, but we didn't consider that the German market could be taken by fewer public companies.
- We didn't consider the difference between large and small packages or fast shipping to evaluate the average ticket price.

Next Steps

- Study the German market to better understand the share of public and private companies and make a better comparison.
- Consider now different types of packages and delivery times.
- Advise our client on how to enter the postal services market, analysing competitors and estimating his own market share to project sales.

Images references



Image 1 and 13 (p. 4 and p. 112)

Montes, Pablo Merchán (2017). Unsplash.
<https://unsplash.com/photos/SCbq6uKCyMY>

Image 2 (p. 8)

Photograph by Element5 Digital on Unsplash.
<https://unsplash.com/photos/ceWqSMd8rvQ>

Image 3 and 12 (p. 12 and p. 102)

[Sunny landscape with windmills]. (n.d.). Freepik.

Image 4 (p. 16)

Photograph by Josue Isai Ramos Figueroa on Unsplash.
<https://unsplash.com/photos/qvBYnMuNJ9A>

Image 5 and 14 (p. 20 and p. 125)

Montes, Pablo Merchán (2017). Unsplash.
<https://unsplash.com/photos/SCbq6uKCyMY>

Image 6 and 15 (p. 24 and p. 135)

[Photograph of a post office]. (n.d.). PowerPoint Stock Images.

Image 7 (p. 37)

PHOTOMIX Company. (2016). [Photograph of a clothing store window]. Pixabay. pixabay.com/images/id-1316787

Image 8 (p. 48)

Parmly, Ross. (2015). [Photograph of an airplane wing]. Unsplash. unsplash.com/photos/rf6ywHVkrIY.

Image 9 (p. 62)

[Photograph of vaccine vials]. (n.d.). PowerPoint Stock Images

Image 10 (p. 73)

tookapic. (2015). [Photograph of a soccer crowd in a stadium]. Pixabay. pixabay.com/images/id-931975

Image 11 (p. 84)

Park, Rachel. (2017). [Photograph of a table full of food and drinks]. Unsplash. unsplash.com/photos/hrlvr2ZIUNk



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