

CASEBOOK - UFRJ CONSULTING CLUB

FIRST EDITION - 2020

UFRJ CONSULTING
CLUB

1

Glossary

page 01

2

Industries Overview

page 06

3

Case Resolution Guide

page 38

4

Estimate Guide

page 44

5

Interviewer's Guide

page 48

6

Cases

page 51

1

Glossary

page 01

2

Industries Overview

page 06

3

Case Resolution Guide

page 38

4

Estimate Guide

page 44

5

Interviewer's Guide

page 48

6

Cases

page 51

B2B

Business-to-Business: refers to the trade between companies (sell-in), without the participation of the final consumer.

B2C

Business-to-Consumer: refers to direct trade between a company and the final consumer (sell-out).

Market Size

Represents the total potential of an industry, measured by its consumers and players. It can be metrified in different manners, such as total revenue or number of potential buyers.

Market Share

Represents the percentage of an industry market size dominated by a particular company over a specific period of time.

RMS

Relative Market Share: compares the market shares of two different players of an industry. It is obtained by the ratio between the market share of a certain company and the market share of the biggest player (in this case, $RMS < 1$). The RMS of the leader is obtained by the ratio between its market share and the market share of the second biggest player (in this case, $RMS > 1$).

Fixed Costs

Costs that are independent of sales volume, that is, they are not directly affected by the increase or decrease in quantity of goods produced and/or services made.

Variable Costs

Costs that change in proportion to production output, varying directly with the amount of goods produced and/or services made.

COGS

Cost of Goods Sold. Refers to the direct costs connected to materials, labor and services used by a company to manufacture and stock goods that it produced. It may include both fixed and variable costs.

SG&A

Selling, General & Administrative Expenses: includes all expenses which are not directly linked to the manufacture of products or provision of services, such as human resources and marketing.

Break-even point

Balance point for a company's operation, in which the total amount of revenue needed to offset the sum of a firm's cost is achieved, so profit is null, and so are losses.

CAPEX

It is an expense of a business that aims to generate future profits. This category includes investments in assets that have a lifetime beyond the year in which the capital was invested.

OPEX

It is the expenditure directed at the daily operation of the business, such as salaries maintenance, repairs, administrative costs (electricity, water, telephone, etc.) and utilities.

R&D

Research & Development: it is the area of a company whose function is to promote innovation, whether in new products, processes or others.

Payback

The length of time required to recover the cost of an investment.

NPV

Net Present Value: it is the difference between the present value of cash inflows and the present value of cash outflows.

Gross Margin

Also called gross profit margin, it represents the percentage of the revenue that the company retains as gross profit. It is obtained by the formula: $GM = \frac{R-C}{R}$, in which R is the total revenue and C the total cost.

Contribution Margin

Represents the money earned with each product sold. It is obtained by the formula: $CM = P - V$, in which P is the price per unit and V the variable cost per unit.

EBITDA Margin

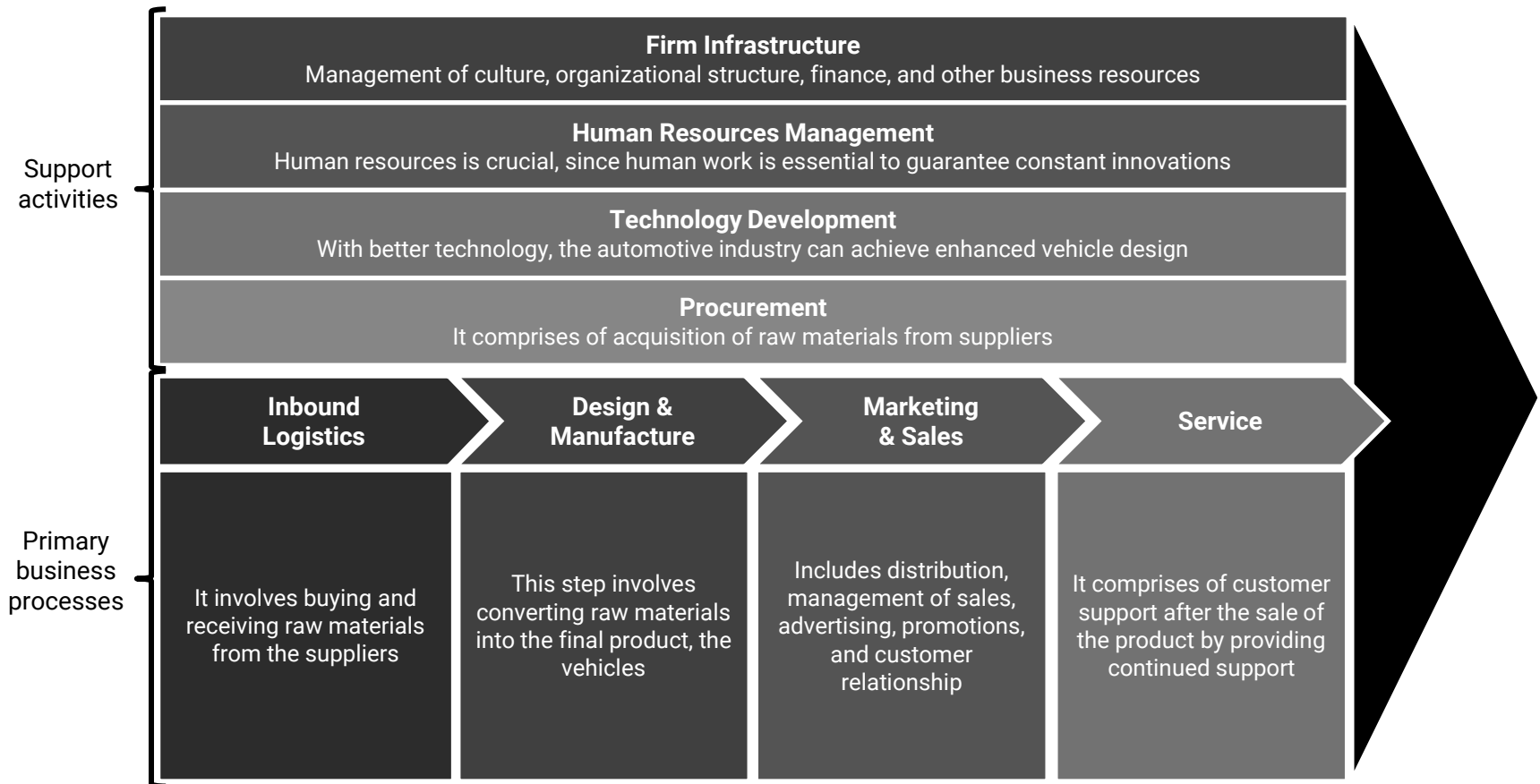
It is a measurement of a company's operating profitability as a percentage of its total revenue. It is obtained by the ratio between EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) and the total revenue of a company.

CAGR

Compound Annual Growth Rate: represents the growth rate of any given data as if it had grown the same rate each year, It is usually used to calculate the rate of return required for an investment to grow from its beginning balance to its end balance.

It is obtained by the formula: $CAGR = \left(\frac{\text{final value}}{\text{initial value}} \right)^{\frac{1}{N}} - 1$, in which N is the period of time analyzed.

1	Glossary	<i>page 01</i>
2	Industries Overview	<i>page 06</i>
3	Case Resolution Guide	<i>page 38</i>
4	Estimate Guide	<i>page 44</i>
5	Interviewer's Guide	<i>page 48</i>
6	Cases	<i>page 51</i>



Clients

- Automobile manufacturing companies only have one customer, their dealers;
- Automakers do not build cars on speculation, every vehicle produced is ordered by a dealership;
- When customers have a severe problem with a car, they also need to deal directly with the automotive company.

Revenues

- **Vehicle sales:** represents the core business of most companies in this industry;
- **Sales of vehicle parts and accessories:** in smaller companies, it can be a very crucial business;
- **Financial services:** the finance branch of an automaker company can underwrite lease deals, loans for customers and even insurance.

Costs

- The auto industry is both capital and labor-intensive;
- Numerous costs and expenses associated with facilities, materials, parts, equipment, R&D and employment;
- Profitability remains strong in the automotive sector with an average EBIT margin of 6.0% as of 2016.

Entry Barriers

- High levels of capital are required to purchase manufacturing plants and raw material;
- It can be difficult for a new company in the industry to find an adequate means of distribution;
- The automotive industry is extremely regionalized. The top 15 countries produce 88% of the world's vehicles.

Key Value Drivers

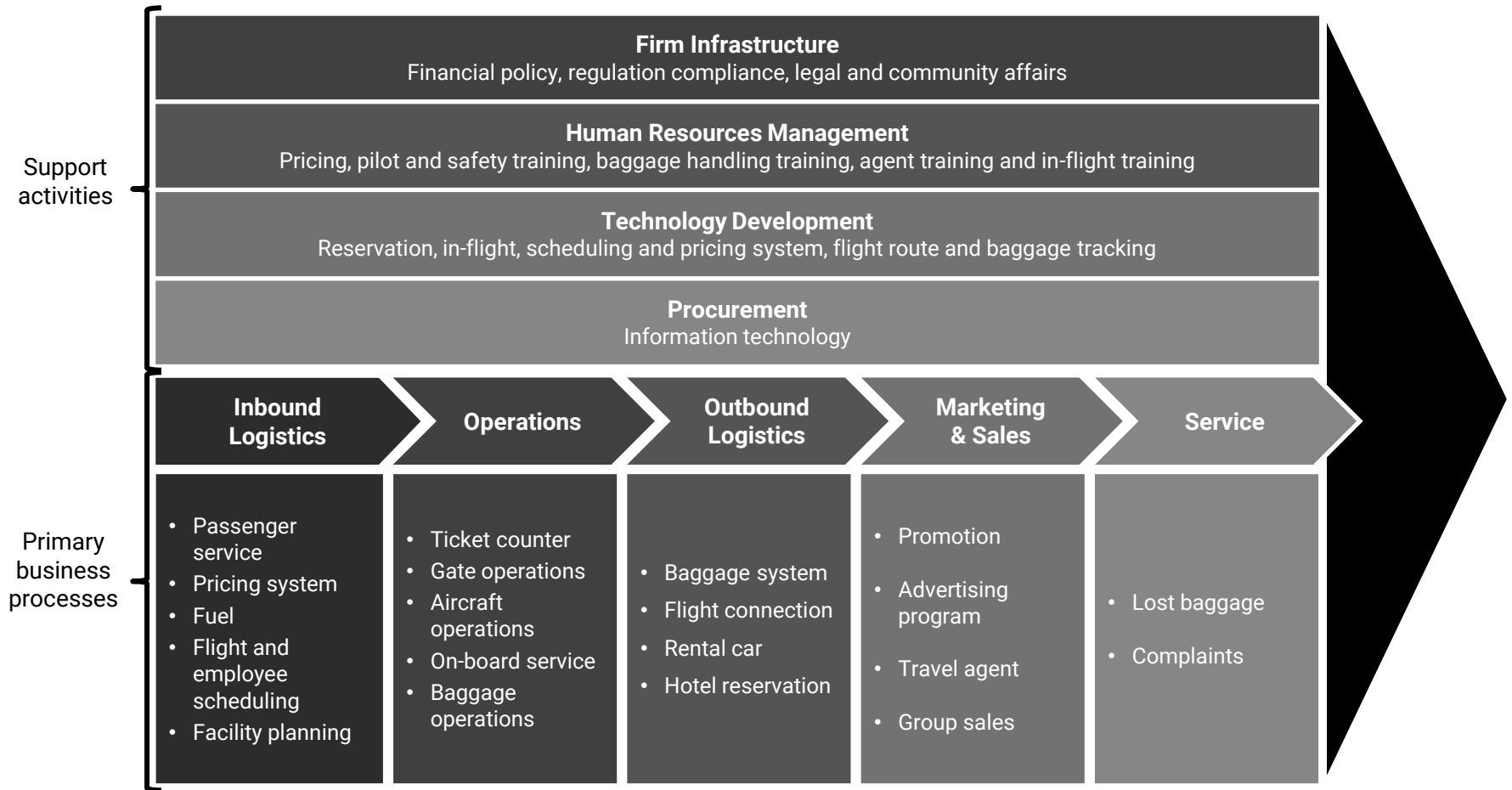
- When economic conditions are favorable, people are more likely to purchase new vehicles;
- The automotive industry operates in a global competitive marketplace. The world's largest manufacturers invest into production facilities in emerging markets;
- Technological advances help the industry add value to their vehicles and offset the narrow profit margins.

Risks

- Rising competition in North America and Europe and the low costs of Asian companies;
- The automotive industry's revenues suffers big falls when oil and gas prices suffer a boom;
- Electric cars sales have grown furiously in this industry. While this can be considered a risk, it can also be an opportunity.

Market Trends

- The transition to emissions-free mobility (EV – electric vehicles) will become a global requirement;
- The development of vehicles which require no human intervention will reduce the use of public mobility platforms and offer individual mobility to new user groups;
- Professionally managed fleets of shared vehicles are on a rise.



Introduction

- The civil aviation industry can be divided into two categories:
 1. Passenger transportation;
 2. Cargo transportation;
- Passenger transportation represents almost all the sector's size;
- Cargo transportation companies are the ones that transport goods with high value-added and represent a small share of an airline company revenue;
- Most of the global air traffic is in Asia-Pacific, Europe and North America.

Market Structure

- The profit margin of the passenger transportation is very low (around 1%) because the costs are high;
- Entry barriers: big players in the market and high operational costs, requiring huge investments;
- Low threat of substitute products: time saved by traveling on airplanes, especially in long-haul flights, is a major advantage of this industry;
- Besides modal international regimentation, each country can regulate its domestic fleet;
- It is the preferred modal to ship small and light goods with high value-added, being, therefore, crucial to the global "Just in Time" type of production.

Competitive Advantages

- Coverage and variety of routes;
- For passenger transportation:
 - On-time departure and arrivals;
 - Small number of canceled flights;
 - Excellent services and experience on-board;
 - Establishment of attractive mileage programs to retain frequent passengers;
 - Formation of code-share agreements and alliances amongst companies (e.g.: Star Alliance, SkyTeam and Oneworld);
- For cargo transportation:
 - Creation of an efficient supply chain (punctual and safe).

Consumers

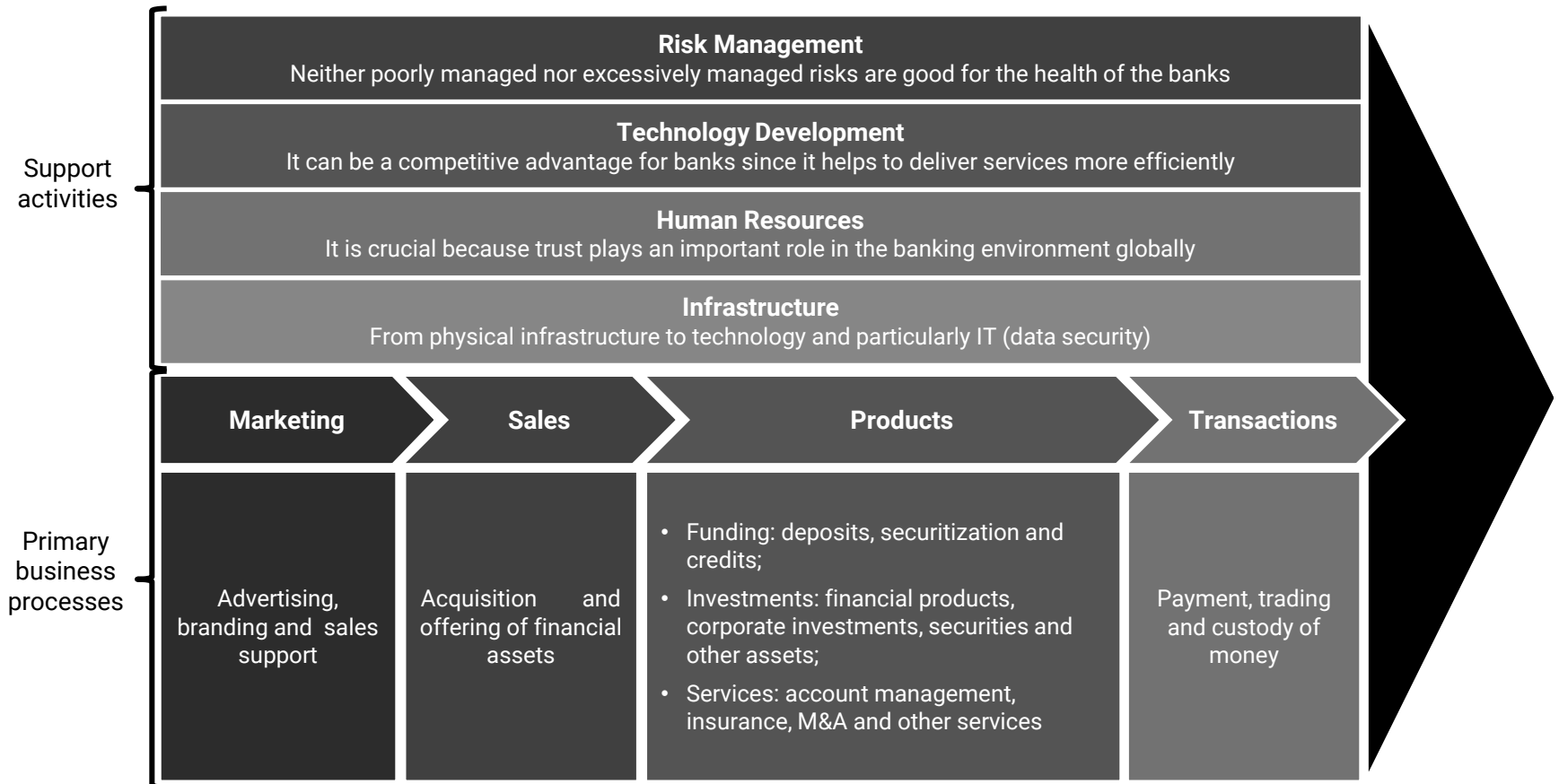
- There are mainly 5 types of consumers to passenger transportation:
 - Business travelers: fly frequently, are willing to pay higher fares and constitute a large market segment;
 - Budget-conscious travelers: look for the cheapest airfare without taking airline differences into account;
 - Old travelers: aged customers (mostly retired) who go on holidays frequently;
 - Loyal travelers: usually travel with the same airline, and so receive miles for its frequent-flyer program;
 - Urgent travelers: constitute a small market segment and only fly for unexpected causes;
- For cargo transportation, there are no different types of costumers.

Drivers

- **Revenue:**
 - The main source is airline ticket sales or the shipment of goods;
 - They can also earn money by selling goods and foods during the flight;
- **Costs:**
 - High costs with operations and logistics, but the biggest ones are with fuel and salaries, respectively;
 - It is also important to consider costs of maintenance and depreciation of aeroplanes.

Market Trends

- Increase in the number of M&As between airline companies, aiming scale and scope economies, reducing costs;
- Big players specialized in passenger transportation are also acting in cargo transportation, a segment that has promising trends of increase;
- Faster growth in Middle East, Asia-Pacific, Africa and Latin America fleet compared the rest of the world.



Clients

- Banks provide vital services for both people and businesses. As financial services providers, they give people a safe place to store your cash;
- Banks also provide credit opportunities for people and corporations.

Value Generation

- Banks take in deposits from customers and pay interest on some of the accounts. In return, banks take the deposits and either invest those funds in securities or lend it to other customers. Since banks receive interest on their loans, their profits are derived from the **spread** between the rate they pay for the deposits and the rate they earn or receive from borrowers;
- Secondary revenue incomes from fees that include wealth management advice, checking account fees, ATM fees and interest fees on credit cards.

Entry Barriers

- A new bank will need to make expensive investments on IT infrastructure;
- The market is already extremely saturated by the existing banks;
- Reputation is extremely important in this business. Consolidated banks all have stellar reputations. Customers prefer their money to be deposited at places which they believe follow safe business practices.

Key Value Drivers

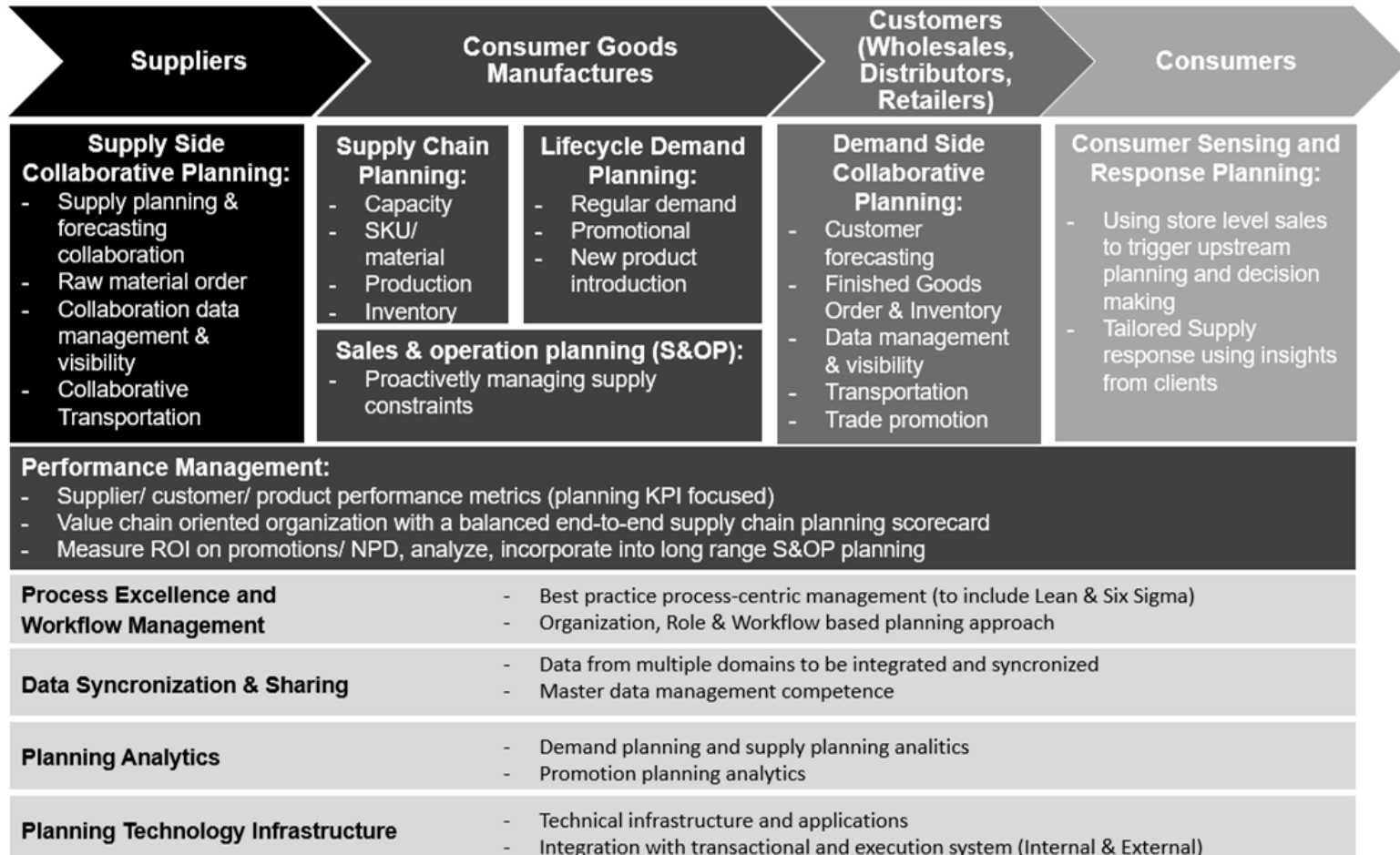
- Customers are looking for digital interactions that are simple, highly personalized and context aware so that the immediate need is served quickly;
- The interest rate can create a tough operating environment for banks. When they are low, banks need to be able to compensate profitability.

Risks

- The possibility of non-payment of loans by the borrowers;
- The bank cannot meet its obligations if the depositors come in to withdraw their money. If all the depositors of the institution came in to withdraw their cash all at once, the bank would not have enough money;
- The failure of one bank has the possibility to cause the failure of many others. It arises because the financial system is an intricate and connected network, since interbank loans are extremely common.

Market Trends

- Aggressive focus on digitization and the adoption of new and emerging technologies to bring in operational efficiencies;
- Many banks are seeking to exploit the opportunities presented by digital, either by leveraging the technologies in-house or by partnering with FinTech companies;
- Technologies such as blockchain are questioning the conventional economic value offered by the banking industry.



Introduction

- This sector is divided into two categories:

1. Durable consumer goods:

Products with more than 3 years of durability;

E.g.: airplanes, house furniture, household appliance, electronics;

2. Non-durable consumer goods:

Products with less than 3 years of durability;

E.g.: cleaning substances, laundry detergents, paper plates, cat litter, personal care, food retail, drug retail, clothes retail.

Market Structure

- It is one of the most diversified markets, including essential items, like foods and drugs, and luxury items, such as cosmetics and fragrances;
- Sensibility to consumer's behavior: includes from popular to premium lines of products;
- Entry barriers: demands high investments in production, distribution and marketing. In addition, established players may start a price war.

Competitive Advantages

- Non-durable consumer goods: high sensibility to prices. Durable consumer goods: more sensible to quality and technological development;
- Companies that can effectively influence their consumer journey, convincing them to purchase items more frequently;
- Companies that build great brand recognition and customers loyalty;
- Promote mergers and acquisitions (M&A) to expand the company's market activity: obtaining more market share or entering new markets, achieving economies of scale and scope.

Consumers

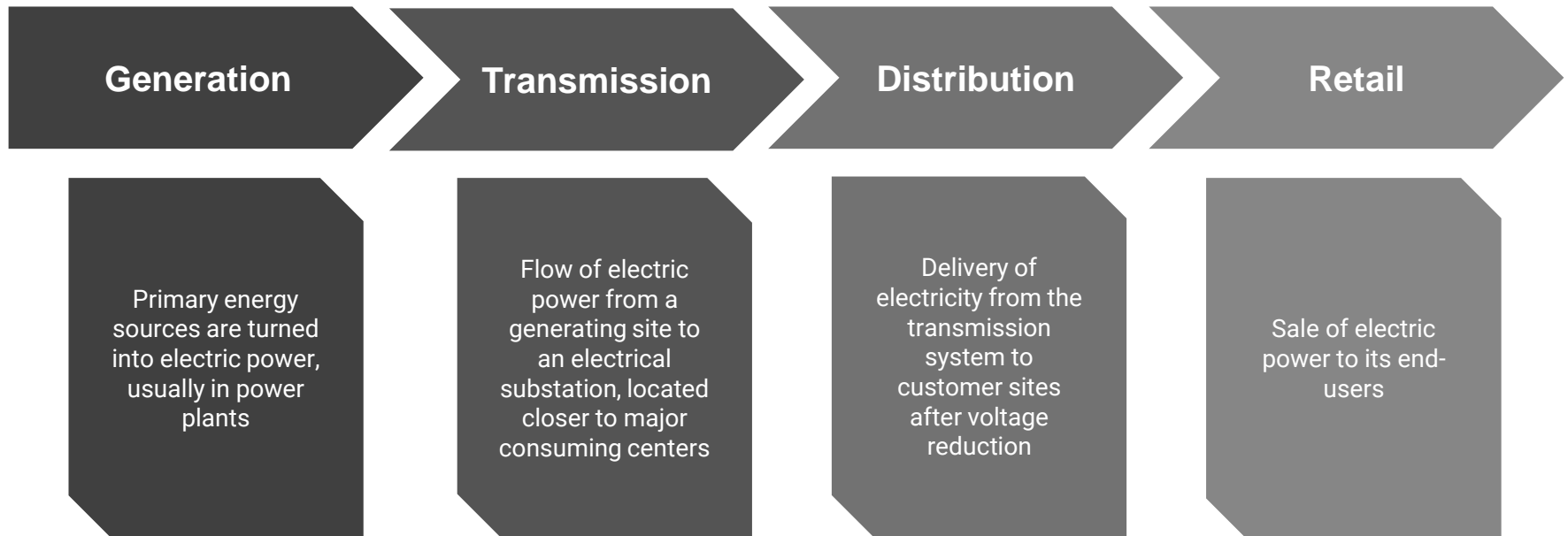
- Each company has its own target market;
- Knowing the customer, his opinion about the company and its competitors is fundamental. Therefore, market research is done to raise this data.

Drivers

- **Revenue:**
 - The main source is consumer spending and confidence;
 - New product improvements, line extensions and new categories (extending and adapting the product mix) may induce revenue growth;
- **Costs:**
 - Major costs are production, salaries, distribution, marketing, tax, and depreciation;
 - The participation rate of each cost is variable according to each product and sector.

Market Trends

- Development of online platforms of consuming (e-commerce) and omnichannel with physical stores, using advanced logistics to reach the consumer through multiple integrated channels;
- New ways to promote a product, such as online platforms and inbound marketing (first, you attract consumers and, then, you engage and retain them);
- Adoption of biodegradable products and a sustainable production process;
- Due to the sensibility of this industry to the economic scenario and consumers behavior, increases or decreases are uncertain according to local status.



Introduction

- The electric power industry is a subdivision of the energy sector, alongside oil and gas;
- There are three types of electric power sources:
 - renewable: hydro, wind, solar, geothermal and biomass (26% of total generation as of 2018, expected to increase up to 65% by 2040);
 - fossil fuels: coal, natural gas and oil (64% as of 2018, expected to decrease to 25% by 2040);
 - nuclear energy (10% as of 2018, expected to remain on 10% levels by 2040).

Market Structure

- Entry barriers: high investments and technical expertise to start operations, strong government regulation, high license fees, presence of dominant state-owned companies in many countries and need for environmental permissions (especially, to build hydro and nuclear power plants);
- Generation and distribution steps of the operation are moderately competitive in many countries. Transmission and distribution stages are usually dominated by monopolies.

Drivers

- **Revenue:**
 - Electricity consumption is the main source;
 - Prices are usually controlled by government;
 - Demand does not suffer significant yearly variations as electricity is a necessary good;
- **Costs:**
 - Major expenses include construction, maintenance and operation of power plants, transmission and distribution lines;
 - Generation costs vary depending on the source of energy.

Consumers

- Besides transport, there are three main types of customer:
 - residential: account for the general public, to whom prices are usually higher because of bigger distribution costs (B2C);
 - industrial: demand a lot of electricity and can receive it at higher voltages, which reduces distribution costs (B2B);
 - commercial: do not usually demand as much electric power as factories and are also susceptible to higher prices as distribution is costlier (B2B);

Key Value Drivers

- Lower costs on electricity generation, which mainly depends on the source;
- Diversification of power sources, as changes in generation capacity and costs from a specific source may be compensated by another, in cases as droughts and rise of fossil fuel prices;
- Well developed infrastructure of lines of transmission and distribution, which guarantees the consistency of the service and the company's reliability;
- Quick and effective efforts to identify and interrupt illegal electric connections, which accounts for billionaire losses for distribution companies.

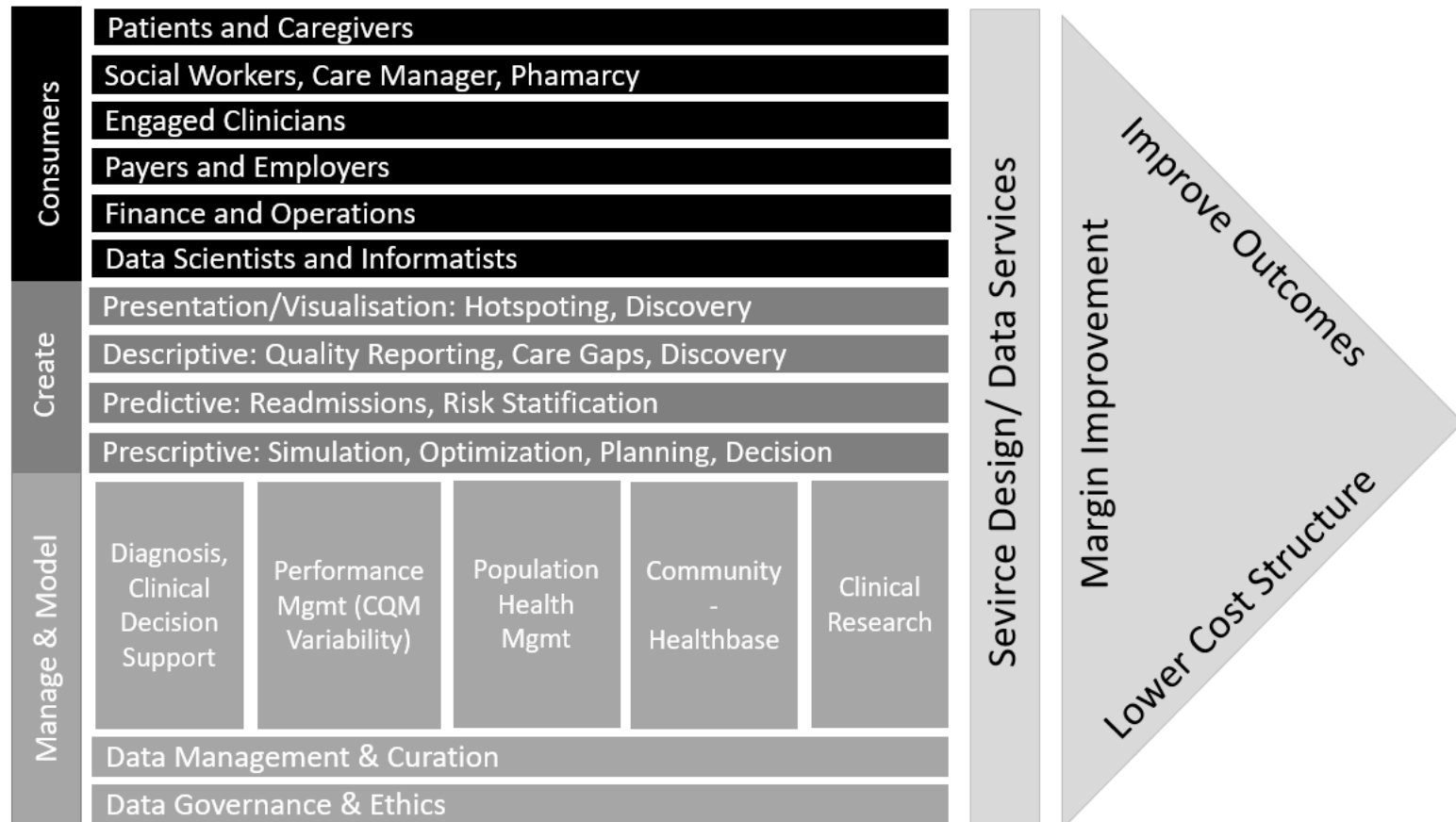
Risks

- The construction of new nuclear power plants is subject to a massive public opinion aversion, as huge disasters with long-term implications have occurred in Chernobyl, USSR and Fukushima, Japan;
- The construction of hydroelectric dams has considerable social and ecological side effects as large areas are flooded;
- Hydropower generation is vulnerable to droughts;
- Fossil fuels are susceptible to global price fluctuations, which influence the cost of generation and the price for distributors and customers;
- In distribution, default and illicit connections are serious risks.

Market Trends

- In recent years, generation of electricity from renewable sources, especially solar, wind and biomass, is rapidly replacing the use of fossil fuels. In 2050, up to 80% of the world's electricity supplies may come from renewable sources;
- Electricity consumption is growing fast in developing countries;
- Use of electricity by modes of transportation is expected to increase as electric and hybrid cars become more popular and rail travels are a more sustainable alternative for short-haul air travels.

1



Introduction

- It's divided in three main threads: public sector, private sector, and non-profit organizations;
- For a more effective application in a case interview, the focus will be in the private sector.

Market Structure

- In order to join this sector and be competitive, some points are necessary:
 - Macro know-how about the industry;
 - High initial investment for technology and operations;
 - High expenses with maintenance, depreciation and payroll;
 - Know how to attract new costumers.

Competitive Advantages

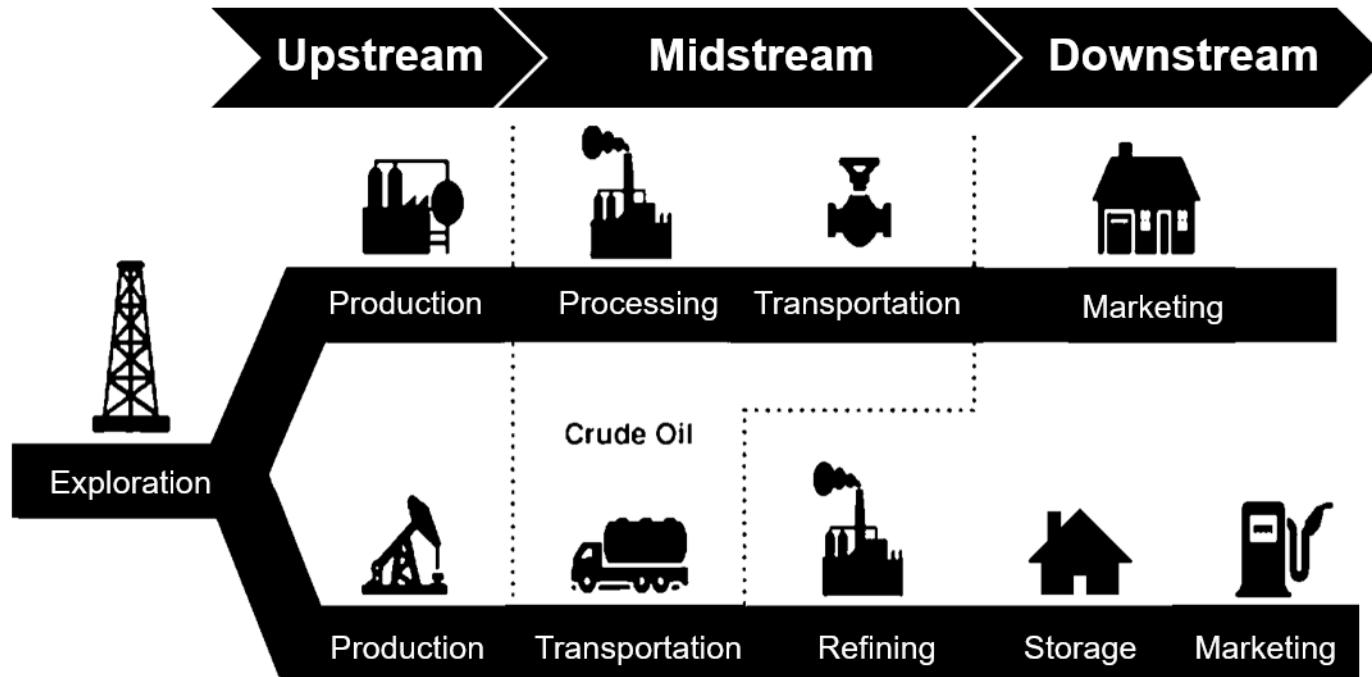
- MedCare technology: a support in attainment and operations (systems and machines);
 - **Tips:** the idea is not to substitute the doctors, but to help them on the decision-making process;
- Patient experience: a new step in the humanization of healthcare. At this point, it's important to understand the patient's journey/perception (local design, complementary therapies, support to the family).

Market Perspective

- Perspective of growth worldwide:
 - The elderly population – the largest users of the sector – is increasing;
 - GDP per capita growth – especially in more developed countries – has enabled people to invest in health care more than ever before;
 - World is increasingly aware of the importance of maintaining physical health (sports, leisure) and mental health (increased demand for psychologists, therapists);
 - Among the least affected sectors by a recession

Market Trends

- In the beginning, there was a clear difference between sectors: suppliers, pharmaceutical industry and technology. Nowadays, the market is looking for an industry with all these integrated areas, reducing costs and gaining operation efficiency. Companies are creating new competitive challenges for traditional participants;
- The expenses with health grows faster than the rest of the economy (it represents 10% of the world's GDP);
- The main expenses are research and development of new technologies, which involve treatments and remedies, as well as the creation of more modern equipment.



Introduction

- This industry operation is divided in three levels: upstream, midstream and downstream;
- Each company can act in one or more levels of operation. Then, the consumers will vary according to its scope of activities, they can be another company in a different level of operation (B2B), another country, or the final consumer (B2C).

Market Structure

- Vulnerability to geopolitical conflicts that can directly affect the price of the product, its supply and its demand;
- Some of the many entry barriers are:
 - Huge necessity of capital to purchase the right to explore a reserve;
 - High costs to provide the resources required for the exploration;
 - Competition with companies that have more than US\$ 30 bn in market value and US\$ 90 bn of revenue;
 - Advanced technology required;
 - Creation of monopolies and oligopolies driven by public biddings;
 - Competition with state-owned companies as in Saudi Arabia and Venezuela, where oil and gas reserves are explored only by them.

Competitive Advantages

- Explore reserves of light oil because they generate more derivatives with high added value as gasoline and kerosene;
- Achieve scale and scope economy by verticalization of the supply chain and operation levels;
- Logistics: expand and build new pipelines;
- High levels of investments in R&D to develop new technologies that increase the efficiency in each step of the value chain;
- Studies and researches to find new reserves of oil and gas and determine the infrastructure that is required.

Consumers

- The main customers of this industry are countries with high levels of development and industrialization, which demand high energy supplies and present small diversification on their matrix of energy.
E.g.: USA, Europe and Asia-Pacific;
- Airline and shipping companies demand high levels of fuels for their operation;
- Final consumers (individuals) are less expressive customers, but they can be a strong stakeholder requiring fuel and gas.

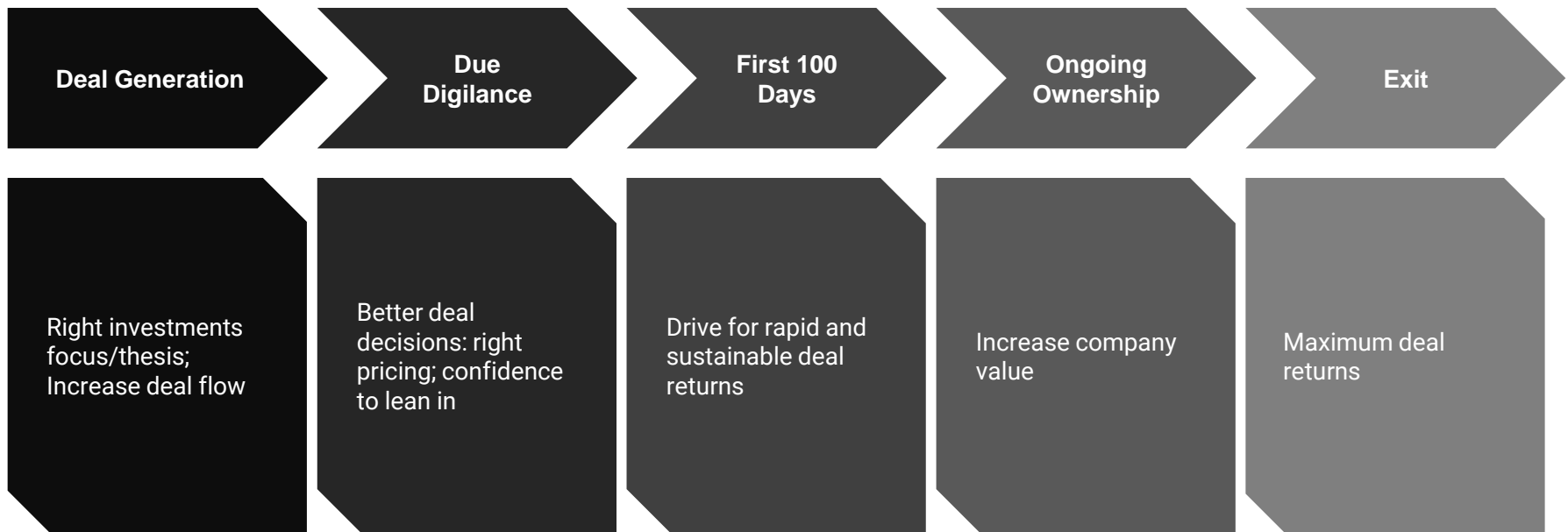
Drivers

- **Revenue:**
 - Selling gas or crude oil and its derivatives;
 - According to the company's position in the value chain, it can sell to 2 different types of clients:
B2B: sells crude oil or gas to another company in a different position or to another country;
B2C: distributes and sells oil derivatives or processed gas to the final consumers;
- **Costs:**
 - The main costs are in R&D and in the upstream level of the value chain: exploration, drilling and production.

Market Trends

- According to the global trends of sustainable development and low carbon emissions, many countries are replacing their current energy matrix (non-renewable fuels as oil and gas) for renewable sources, with low emission of carbon dioxide. Therefore, many players in this industry are investing in R&D to develop biofuels.

1



Introduction

- It is a type of investment in which a manager acquires – totally or partially – a company, becoming a partner and starts to manage it looking for scale gains and possible value chain optimizations to sell it later for a better price. The purpose of this fund is to leverage the company's results and, consequently, to increase its market value;
- If the company in question is a startup or has recently started its operations, the most appropriate investment is venture capital.

How to be successful?

- To make sure that this action brings a good return, it is essential that the company spends some time preparing the action;
- This means: be sure that the company is well structured internally; seeking good practices in the sector (to multiply them) and eliminating the inefficient ones.

Competitive Advantages

- The companies that join this investment fund usually have managers with a very good vision and know-how of the market as a whole;
- Synergy among stakeholders so the company's leverage is successful.

Consumers

- Private Equity funds tend to serve medium-sized companies that are already structured, "mature" and with great potential for development, but which want to achieve a more stable range of development. In general, these companies have positive cash flow and the opportunity for enhancement by PE is related to operational improvement, management and search for synergies in operations.

Market Characteristics

- As the PE market is highly internationalized there is a constant dependence on the world stage;
- One of the main factors that worry and cause distrust for the investor is the path that the world market is trending to, especially the industry of that specific company.

Market Perspective

- The recent market has been a steady increase for Private Equity firms. However, while this segment is still strong compared to other asset classes, the market tends to decline slowly;
- The main reason is the moment of great world instability, which directly affects the level of investor confidence and the fear of the entrepreneur and even the PE firm.

Market Trends

- In recent years, the fund has been mainly destined to medium-sized companies as they have a great capacity of growth and market perspective. This happened because larger companies already have a professional management and big growing, so they started to see less value in PE.

Benefits

- Maximizes value;
- Potentializes and accelerates the company's growth;
- Improves the global image and consequently gives more credibility to investors;
- Capitalization.

Risks and Disadvantages

- Liquidity: is the capacity to turn investment into cash. In general, they are low liquidity investments;
- Long-term return;
- Owner's interests to concede a part of the company.

1



Introduction

- The market size is large, accounting for 26% of the world's GDP in 2018;
- This sector is divided into multiple sub-industries:
 - food retail: sells fresh and highly perishable products (e.g. bakeries);
 - softline retail: sells non-durable goods (e.g. drugstores);
 - grocery and convenience retail: sells perishable and non-perishable food, household and personal hygiene products (includes supermarkets and hypermarkets);
 - hardline retail: sells durable goods (e.g. car dealerships);
 - specialist retail: focuses on a very narrow range of products (e.g. bookstores and greengrocers).

Market Structure

- This is a consumer-oriented market, as it sells goods directly to its end-users (B2C);
- Profit margins are usually low because of frequent discounts and high level of competition;
- The entry of new competitors is easy because of large and continuous demand and low investments to operate, which result in a rarely concentrated market. However, in some sub-industries, there are big dominant players, notably hypermarkets;
- Sales channels: brick-and-mortar (physical stores and shopping malls) and online retailing.

Drivers

- **Revenue:**
 - The main source is the consumer expenditure on products sold, which may be affected by frequent discount offers;
- **Costs:**
 - Major costs include the purchase of the products to be sold from suppliers, storage, workforce payroll and rental or lease of retail space;
 - Marketing and IT (in particular with e-commerce platforms) are also significant costs.

Consumers

- There are basically five different types of consumer:
 - price-conscious: search intensively for the lowest prices and for discounts in different stores;
 - brand-conscious: prefer particular top-tier brands;
 - quality-conscious: seek for the best quality in products, making many comparisons between alternatives;
 - fashion-conscious: are up-to-date with the latest market trends;
 - impulsive: exaggerate on shop volume and ignore product prices.

Key Value Drivers

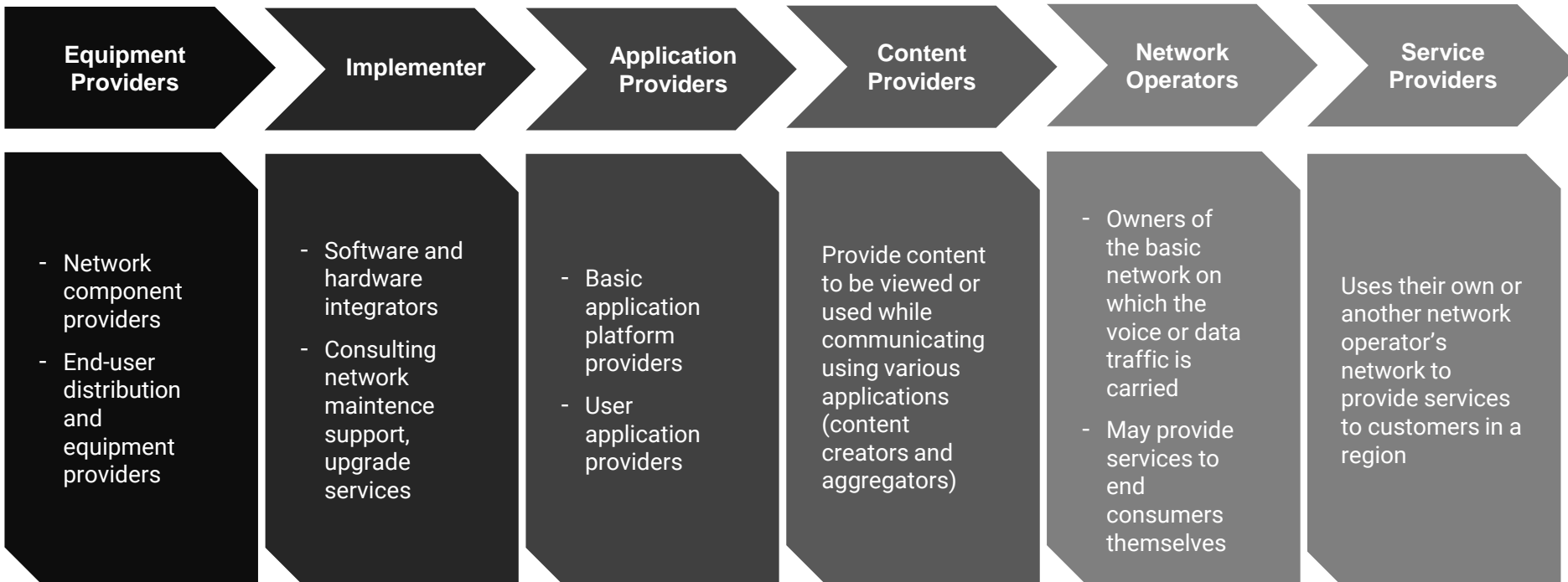
- Discounts and low and fair prices attract price-conscious customers;
- High quality and variety of products;
- Considerable power to bargain with suppliers may ensure lower costs on product acquisition and so lower prices for customers;
- Positive brand image towards public opinion;
- Great customer experience, ensuring that consumers will easily meet most of or all their needs in a single place.

Risks

- Many sub-industries have an elastic demand;
- Issues with product delivery might cause temporary shortages of items;
- Inefficient inventory and sales control may lead to overstock;
- The commonly easy entry of new competitors demand companies to maintain high levels of innovation and customer satisfaction;
- In online retailing, deliveries may suffer delays, which induces more complaints and refund requests. Also, security breaches and credit card scams might occur.

Market Trends

- E-commerce is increasing much faster than brick-and-mortar sales, although it only accounted for less than 20% of the retail market size as of 2019;
- Omnichannel: an strategy to provide customers a continuous brand experience, gathering users' info to show them specific ads and creating interactive channels that unite online tools and physical purchases;
- Most consumers now prefer environmentally-friendly companies.



Drivers

- **Revenue:**
 - Plan sales (internet, telephone);
- **Costs:**
 - IT development to improve actual services;
 - Marketing – as there are big competitors;
 - Technology focused on network security.

Market Structure

- Specially in developing countries, the telecommunications sector has few and big players. In this way, for a new brand consolidation in this market, it is necessary high investments to compete and have an innovative proposal;
- Mergers and acquisitions (M&A) to reduce costs and increase market share.

Competitive Advantages

- Develop an open platform that can attract the participation of hardware vendors, end-device suppliers, content developers and end users to seek a better integration between different areas;
- Customized marketing campaigns intend to improve customer segmentation and offer better service;
- Clients loyalty (e.g.: loyalty programs).

Consumers

- As it is an industry that is the basis of communication, it involves groups of all ages;
- Each telecommunication company has your own type of plan (family, individual, limited, etc.).

Market Perspective

- The market does not lose customers even in a period of crisis. Those who achieve success in the industry can stand out and innovate in front of the other players;
- This is a market that has grown very expressively for some decades and the constant innovation of the sector indicates that the advances won't stop so soon.

Market Trends

- Explore the use of Big Data to captivate and protect customers;
- 5G Internet: companies are trying to stay competitive;
- Network security has grown, becoming a top priority for telecommunications companies facing challenges with the emergence of new threats that are driven by new technologies.

1	Glossary	<i>page 01</i>
2	Industries Overview	<i>page 06</i>
3	Case Resolution Guide	<i>page 38</i>
4	Estimate Guide	<i>page 44</i>
5	Interviewer's Guide	<i>page 48</i>
6	Cases	<i>page 51</i>

The Selection Process

- Whenever you are applying to a firm in strategic consulting, you, as well as every other candidate, must go through a rigorous recruiting process.
- Usually, those begin with GMAT and Business Case tests and/or logical games and finish with two rounds of interviews.
- There are two different parts on an interview: case and fit interviews, which are commonly held together. In the following slides, we're going to talk about both, understanding their differences, common mistakes and how to get prepared for each one.

Case Interviews

- The case interviews are a fundamental part of every selection process. They are simplified adaptations of real projects executed by consulting firms, done in such a way so they can be completed in a matter of minutes instead of months.
- Because of their similarity to the real projects, cases are of great importance: by putting candidates through it, interviewers can precisely evaluate how each person deals with the kinds of problems faced by consultants.
- It is also possible to assess a wide range of other skills, such as communication, teamwork and sound practices of the consultant profession, which should all be well developed and evidenced during the interview.

Case Interview Skills

These are the skills that are expected from candidates during an interview:

- **Analytical skills:** how to logically approach a situation in order to find out the root cause issue as soon as possible;
- **Logical reasoning:** how the candidate structures his/her way of thinking and faces problems -- in matters of linearity, logic and prioritization;
- **Business sense:** how the candidate applies his / her critical reasoning and intuition to resolve a business problem;
- **Creativity:** how skilled the candidate is in proposing outside the box solutions, presenting insights that go beyond common sense while doing analyses;
- **Coachability:** how easily the candidate can approach the problem alongside the interviewer, knowing how to ask for information, as well as explaining premises and analysis. He must also be able to be guided by interviewer, when he points out that the interviewee might be going the wrong way;
- **Objectivity:** how straightforward the candidate can be while communicating his/her reasoning, as well as making analyses, given the short time available;
- **Mathematical dexterity:** how fast the candidate can make calculations without committing mistakes.

Some of the skills above are essential and might emerge naturally during the trainings, but there are also ones that will need special attention for the candidate to stand out. Much of the preparation's effort shall reside in knowing which skills to focus on.

Solving a Case

- The expected resolution procedure follows a well-defined standard for most consulting firms. It has as timeline like the following, in 4 major steps.

1. To listen, to confirm and to clarify

- The case must begin with the enunciation of the initial situation, the problem statement. The candidate must listen carefully, generally knowing the company's name, its industry, some information about its business model and, of course, the problem it has been going through;
- After listening and confirming what has been stated with the interviewer, the candidate must seek to better understand the problem, clarify the business model, question some details and start directing the analysis towards the solution of the problem.

2. To structure the solution

- From there, the candidate is expected to take some time to assemble the structure of the problem: the case framework. The issue-tree model is the most suitable for this: listing macro, fundamental points, which are broken down into smaller analyses, seems to be the clearest way to guide thought process – both for the consultant and for the progress of the case –, besides being a very common tool in the consulting universe;
- After presenting the framework and stating priorities (you should start by the most significant one), there is the option of creating hypothesis about them.

3. To analyze (drill-down, pull up)

- This should be the most workful step. The candidate must delve into each of the issue-tree's branches by asking for important information (e.g. asking for costs and revenue to calculate the profit);
- This is the idea of drilling-down: delving deeper into each one, until finding the answer sought for, and returning (pulling up) to fewer specific points, starting the next analysis;
- The goal is that, in the end, the candidate has collected the necessary information and insights and already has inputs for a final recommendation.

4. To synthesize, to conclude

- Making a recommendation becomes a natural process once the necessary insights are found;
- Again, the candidate should ask if it makes sense to take some time to structure it;
- Begin by synthesizing and quickly explaining the most important analyses done and what they generated;
- Then, make the recommendation, supported by arguments, analysis and calculations made throughout the case, stating the risks involved -- which should be thought during the analysis as well – and how to mitigate them;
- Then, lastly, the next steps. The conclusion is the time to demonstrate more creativity and reasoning beyond common sense;
- The process should not take too long, so be aware of the time taken during practice.

Final Tips

Finally, there are some things in the case interviews that deserve special attention:

- Communication:
 - As stated earlier, being clear, linear and objective is essential;
 - Communicating well is a fundamental skill of every good consultant;
- Trainings:
 - Above all, cases have an unconventional framework for many, as well as a very specific resolution model;
 - That is why it is important to practice a lot. Of course, always with caution so that it does not become something mechanical, but something with a good reasoning involved.

1	Glossary	<i>page 01</i>
2	Industries Overview	<i>page 06</i>
3	Case Resolution Guide	<i>page 38</i>
4	Estimate Guide	<i>page 44</i>
5	Interviewer's Guide	<i>page 48</i>
6	Cases	<i>page 51</i>

Thought Experiment

- Imagine yourself in the following situation:
 - You are a consultant for a renowned firm, in an initial meeting with the CEO of a Fortune 500 company;
 - You discuss the project and are fully scoped, ready to finalize the conversations when he asks: “just for reference, can you estimate the size of market X, which I am about to enter?”;
 - What a question! While there is no formal obligation on your part to know, it is definitely not an option to simply say “I cannot”. You need to give it an answer compatible with reality;
 - In order to answer it, it is necessary to **quickly and approximately estimate** the value sought.
- These are commonly called estimate questions and are a frequent part of a consultant’s professional life. They also show up in consulting firms’ recruiting interviews, whether being **part of a case** or a **whole case**.
- An estimate resolution is based on a simple concept: breaking up the main problem into smaller ones, with more concrete and backed estimates.
- During an interview, the first steps are similar to those of an ordinary case:
 1. making sure you understood the question;
 2. asking enlightening questions (e.g.: “should I include product Z in the estimate as well?”);
 3. **breaking up** the problem in a structured way, assuming backed-up premises, and **calculating** the estimate.
- The first two parts spare explanations. The third step, however, needs further analysis.

Breaking Up and Calculating: The Coke Case

- Estimating the annual consumption of Coke in Brazil is not an easy task, much less with a small margin of error.
 - The idea consists in breaking up the problem and finding this value **gradually**. One of the most common ways to start is by thinking about **channels** – in this case, the sources of consumption of that product.
 - Above all, it is important to **segment** customers, which can be done in infinite ways, such as:
 - Social class;
 - Age;
 - Geographic distribution;
 - Gender;
 - Profile.
 - The main concern on segmentation must be the **MECE** concept.
- In the Coke case, segmentation by income would work well: classes A, B, C and D will each have its own consumption, as well as being totally **MECE**.
 - Next, estimate the **number of people per class** or the **percentage** of each compared to the total population, which is approximately 200 million in Brazil, a number much closer to our reality than the liters of Coca consumed. If you do not know this data, ask the interviewer. If you do, validate with him/her.
 - Afterwards, taking income into account, you can estimate the **consumption per person**.
 - Then, estimate the **partial consumption per class** by multiplying the number of liters consumed per person in a year and the previously estimated number of people per class.
 - To conclude, you add the partial consumption of each of the classes A, B, C, and D to obtain the **total annual consumption of Coke in Brazil**.

Conclusion

- Notice how the “drill-down, pull-up” logic also applied here: delving deeper into the specific values of each segment until we find the numbers we are looking for and then returning to the larger analysis.
- That is how an estimate should be structured. Of course, that is flexible, and it can be somewhat accurate depending on the needs of the moment.
- In interviews, what really matters is the path to the outcome, much more than the precision of the number itself.

Final Tips

1. Beware of rounding

- It is highly expected that the candidate rounds off the calculations in order to facilitate them. Approximations should be done while solving a case or an estimate question;
- However, you must take care with numbers that are repeatedly rounded in the same direction (up or down), which could generate large biases;
- For this, a good tip is always trying to balance them by interleaving approximations up and down.

2. Work comfortably with assumptions

- Assumptions are necessary to guide your structuring and should always be used alongside your business sense.

1	Glossary	<i>page 01</i>
2	Industries Overview	<i>page 06</i>
3	Case Resolution Guide	<i>page 38</i>
4	Estimate Guide	<i>page 44</i>
5	Interviewer's Guide	<i>page 48</i>
6	Cases	<i>page 51</i>

Introduction

- The interviewer is the one who presents the case and is the only one who can provide the necessary information for its resolution;
- Although it does not seem so, the role of the interviewer during a case resolution is as difficult as that of an interviewee;
- Knowing how to instigate and direct the thought process in the most fluid way possible during the case, adding to the resolution, are some of the points that the interviewer should keep in mind;
- That being said, here are five tips that can help the interviewer during case practice, making it a greater source of learning for both parts.

1. Be prepared

- Good case practice depends a lot on how the interviewer prepares for it;
- Thus, one should study the case, read it as if one were solving it, checking all the reasoning and calculations;
- In addition, it is valid to mark what you think can be instigated during the case and develop questions that make sense during the resolution;
- This preparation enhances the learning process throughout case practice, making it more fruitful for both the interviewer and the candidate.

2. Know how to instigate

- In case the interviewee gets lost at some point in the resolution, it is up to the interviewer to instigate his reasoning and assist him/her, providing guidance to his/her thoughts, but without saying directly what steps should be taken;
- When noticed that the interviewee is unable to proceed with the case, it is worth asking **what he has concluded so far, what he thinks this entails in the client's case, what information he has used and how he would proceed;**
- Questions like this instigate the respondent's reasoning and direct him/her in a less direct manner.

3. Be flexible

- Each case has its itineraries well set and directed;
- However, the interviewee does not always follow the path that appears in the template;
- Therefore, the interviewer should always seek to hear what one's ideas for the resolution are and understand the path the interviewee is taking;
- In case it makes sense, even if it is different from the expected resolution, it is up to the interviewer to be flexible and allow him/her to proceed with the reasoning;
- In that situation, the interviewee should be encouraged as much as possible to develop it and, when he has reflected enough, he can be redirected to the expected resolution.

4. Act if he/she goes too fast

- If the interviewee is solving the case very easily, once again the first tip is to instigate him/her;
- Instead of giving away the available information when requested, encourage the interviewee to brainstorm about the answer to the question and/or to estimate things;
- Let's suppose that he/she asks for the cost structure of the company in question and that this information is available to be given. Though, to instigate reasoning, one can rebut by asking how the respondent believes this structure to be like, justifying each segment of it;
- Making him/her think for himself/herself is without a doubt one of the best ways to make the candidate learn.

5. Give good feedback

- At the end of case resolution, it is very important that a round of feedback takes place;
- The interviewer should score what the interviewee did and could have done in certain situations, taking into consideration clear communication, good insights, logical reasoning, objectivity and business sense;
- It is also worth commenting on the candidate's organization, both in the calculation sheet and in the problem structuring and thinking, whether it occurred in a linear way or not;
- For this, the tip for the interviewer is to write down feedback throughout the practice, so that everything that was positive or can be improved is, in fact, commented on.

1	Glossary	<i>page 01</i>
2	Industries Overview	<i>page 06</i>
3	Case Resolution Guide	<i>page 38</i>
4	Estimate Guide	<i>page 44</i>
5	Interviewer's Guide	<i>page 48</i>
6	Cases	<i>page 51</i>

Case 1: Soccer Game	53
Case 2: Black Pearl	62
Case 3: Marine Co	72
Case 4: Emaker	84
Case 5: Tech Co.	94
Case 6: Doctors Away	107
Case 7: Music in Rio	115
Case 8: Cluber's Market Share	123
Case 9: Rental Cars	133
Case 10: Cure Co.	146
Case 11: Exploration Sa	155
Case 12: Retail Co.	165



CASE 1: SOCCER GAME

Difficulty: Medium
Industry: Gaming

PROBLEM STATEMENT NARRATIVE

A startup from the videogame industry has recently developed an innovative game called Soccer Game. Even though it had various technical issues that caused dissatisfaction, the game was a hit, experts say it's because it's free. The CEO has hired you to define how to handle Soccer Game's earnings.

GUIDANCE FOR THE INTERVIEWER

- In order to solve this case, the candidate should be able to think about quantitative and qualitative analysis and point out good ways to invest within the budget.
- This particular case has no defined way to flow, but the candidate needs to analyze the two possibilities (invest in Soccer Game and develop a new one) for it to be a success.
- After the clarifying questions, the interviewer must instigate the interviewee to think about possible ways to invest the earnings, and only stop asking for more options when the interviewee lists at least 3 possibilities. Good options are: Develop a new game, improve older games and expand the startup's mix of products (beyond videogames).
- From this point on, is expected from the interviewee a structure for solving the problem that points out: 1- Calculations of how much money have they earned with soccer game 2- Ways to invest the money.
- By the end of this case, the interviewee should note that he is supposed to improve Soccer Game and develop a new one.

INFORMATION TO BE PROVIDED UPON REQUEST

- The startup's main source of income are add-ons*.
 - Until today, the startup has only developed one game at a time due to its workforce limit, and the CEO doesn't want to share any information regarding previous games, including the total of games made.
 - The startup's CEO has already assessed the possibility of investing Soccer Game's earnings on the creation of another game and concluded that it may be economically viable.
 - The company finds itself in a delicate position regarding its working capital**.
 - If the interviewer asks about the amount he is supposed to handle, tell him it's probably a good idea to figure that out in future analyses.
 - The client wants your recommendation to give him at least a return of \$4.5 Mi.
 - The startup only makes free to play games.
- * add-ons are products bought within the game.
- ** working capital is the money a company saves to spend on expenses.

PART 1

This is the moment when the candidate discovers what is the amount the startup earned with Soccer Game that he is supposed to handle, which means the interviewee should tell the interviewer which data he would need to calculate this amount, and only then should the interviewee be given the numbers needed to calculate it.

CALCULATIONS FOR SOCCER GAMES' PROFITS

Number of players: 2,000,000

Fixed costs: \$1,000,000.00

Variable costs: \$4.50

Penetration rate: 50%

Average ticket: \$20.00

 $\$4.50 * 2,000,000 = \$9,000,000.00$

Costs = \$1 Mi + \$9 Mi = \$10 Mi

Revenues = $2,000,000 * 50% * \$20.00 = \20 Mi

Profits = $\$20.00 \text{ Mi} - \$10 \text{ MI} = \$10 \text{ MI}$

FOLLOW-UP QUESTIONS

- When the interviewee asks about costs, the interviewer should indirectly tell the former to brainstorm possibilities (“tell me what costs do you think players in this industry may have”). Good possibilities are: Fixed: salaries, real estate expenses (water, gas, electricity), equipment, maintenance. Variable: freelancers, distribution fees.

INFORMATION FOR THE INTERVIEWER

- After the interviewee has the amount he is supposed to handle, it’s expected of him to try to understand how much he is supposed to invest in each possibility that he brainstormed at the beginning of the case.
- When the interviewee asks for data on investing on Soccer Game, hand him **Exhibit 1** (Insights on this exhibit in slide 3).
- When the interviewee asks for data on developing another game, hand him **Exhibit 2**. After he points out he needs more data to choose which category he is developing the game in, hand him **Exhibit 3**.
- If the interviewee asks for data on other possibilities he listed while brainstorming, the interviewer should tell him that there is no information for that.

INSIGHTS ON EXHIBIT 1

- Each column represents possible revenues by the end of year two (present year +1), depending on the amount spent on improving Soccer Game.
- The candidate must realize it is not worth it to invest more than \$3 Mi because the churn rate will decrease too little and consequently, revenues would also raise too little.

- The return calculations are:

$\$10 \text{ Mi} * 90\% \text{ (Churn Rate of } \$3 \text{ Mi)} = \mathbf{\$9 \text{ Mi}}$

$\$10 \text{ Mi} * 50\% \text{ (Churn Rate of } \$0) = \mathbf{\$5 \text{ Mi}}$

Return = \$9 Mi – \$5 Mi = \$4 Mi

The candidate should note that, because the penetration rate for add-on buyers is 50%, a churn rate of 10% also represents that 10% of buyers would quit playing the game.

After realizing that investing only on improving Soccer Game won't be enough to reach the client's goal, the interviewee must analyze other branches of his issue tree.

INSIGHTS ON EXHIBIT 2

- The interviewee must realize that the two categories with higher expectation to grow (more attractive to develop a new product) are **Strategy** and **Action-Adventure**.
- After the interviewee figures that out and understands that he needs more data to prove any hypothesis over which category is the best to develop a new game, show him **Exhibit 3**.

INSIGHTS ON EXHIBIT 3

- In the game industry, a barrier of entry is not market concentration, but the lack of it, which means: with fewer players, the easier it is to steal share from them and consolidate yourself in the market. (It is not expected of the interviewee to know this singularity of this market, so when showing this Exhibit, the interviewer must tell him).
- When analyzing this Exhibit, the interviewee should note that Action-Adventure is a more attractive market than Strategy because:
 - There is less competition;
 - The market size is bigger;
- Whenever the interviewee feels the urge to calculate the return of creating a new game, wait for him to brainstorm a few possible ways to calculate the revenues (or urge him to, if needed) the interviewee should realize from exhibit3 that the market share is of R\$60 MI, and when he asks for the startup's possible **market share**, show him **Exhibit 4**.
- If the candidate asks for **costs**, tell him that the amount invested already considers initial investment and year 1 costs.

RECOMMENDATION

The startup should improve Soccer Game and develop a new videogame on the Action-Adventure market, because by investing \$3 Millions on improving Soccer Game, it's churn rate will decrease 40% for the next year, rewarding the startup with \$4 Millions. By investing \$6 Millions on developing a new game on the Action-Adventure market, the most attractive market, the startup will have a return of \$2 Millions, totalizing \$6 Millions, \$1.5 Millions over the CEO's goal, while leaving \$1 Millions of working capital for potential problems.

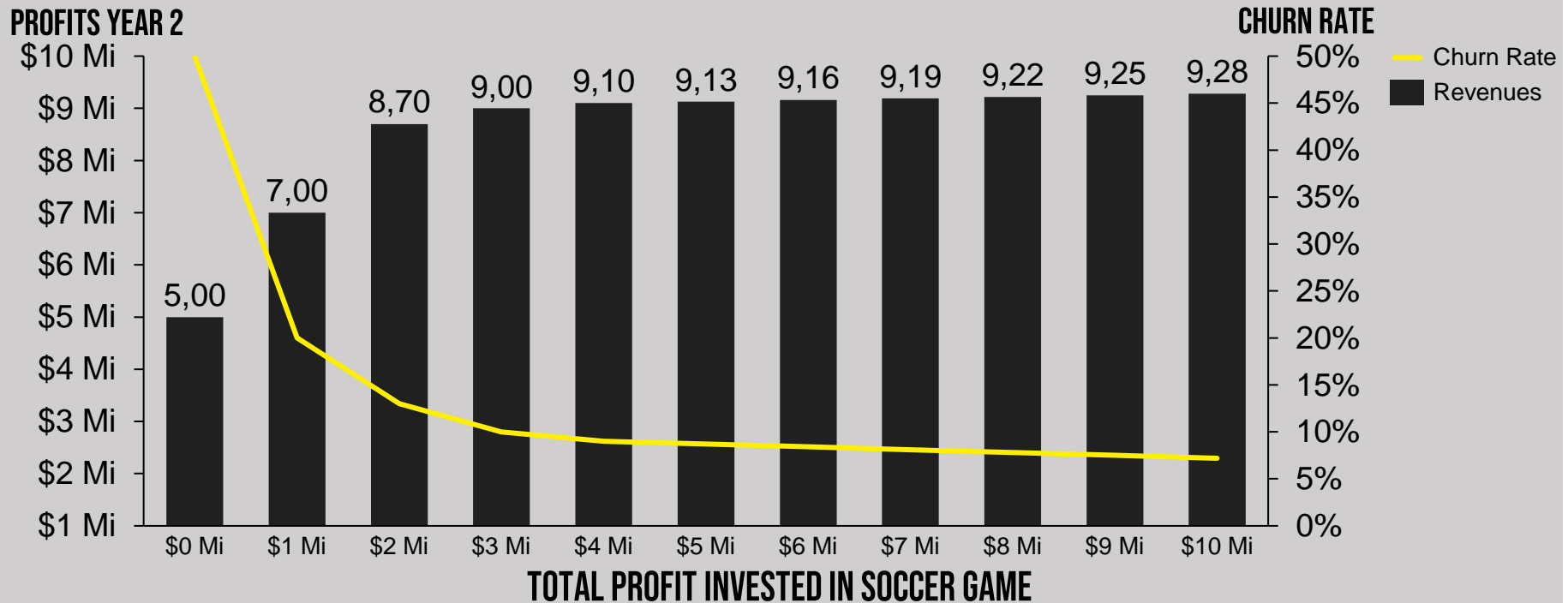
RISKS

- The startup is, by definition, a young enterprise with low to none leverage over it's competitors, which means that if any bigger player decides to develop a videogame close to what Soccer Game is, the startup may face big revenue issues.
- Considering that the startup has little working capital, it may not make so much sense to leave just \$1 Millions from the \$10 Millions raised with Soccer Game.
- All analyzes were based on forecasts, and forecasts may not materialize.
- The prediction of the new game reaching in the first year can be very optimistic considering that the startup only had one successful game.

NEXT STEPS

- Evaluate the hiring of specialized personal over the Action-Adventure market, in order to try to achieve the same success as the Soccer Game.
- Revisit costs that were calculated based on forecasts that may be unreal.
- Make a customer satisfaction analysis in order to further reduce the churn rate of Soccer Game.
- Benchmark successful games in this new industry.
- Conduct loyalty, interest and consumer preference surveys in the Action-Adventure market to make sure it'll be adequate to the costumer's desires and needs.

EXHIBIT 1: REVENUES OVER INVESTMENTS FOR SOCCER GAME



***CHURN RATE: RATE IN WHICH USERS ARE PRONE TO STOP USING A SERVICE OR BUYING A PRODUCT.**

EXHIBIT 2: PROGRESSION OF ADD-ONS BUYERS' GROWTH FOR EACH GAME CATEGORY

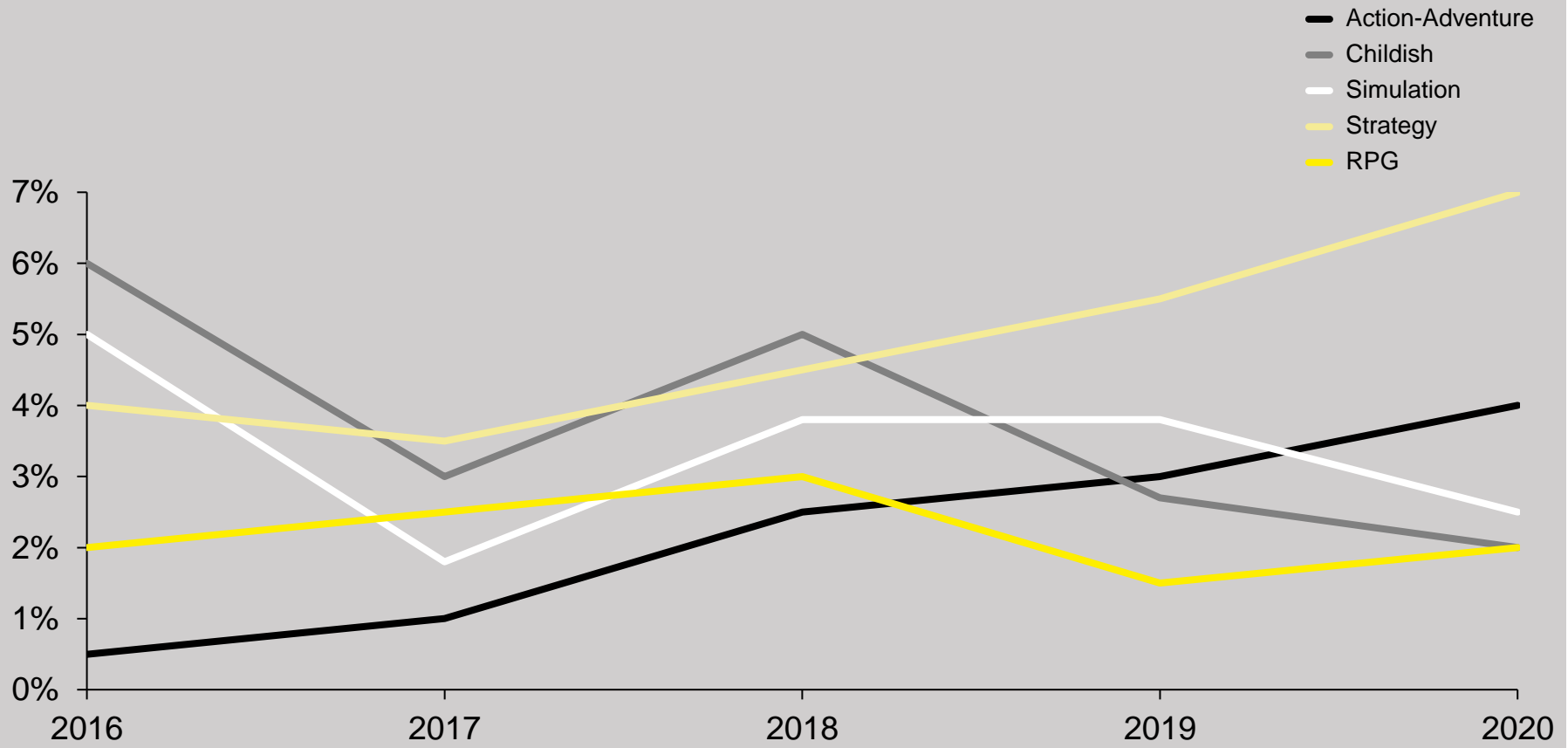


EXHIBIT 3: MARKET SHARE AND COMPETITION WITHIN EACH CATEGORY

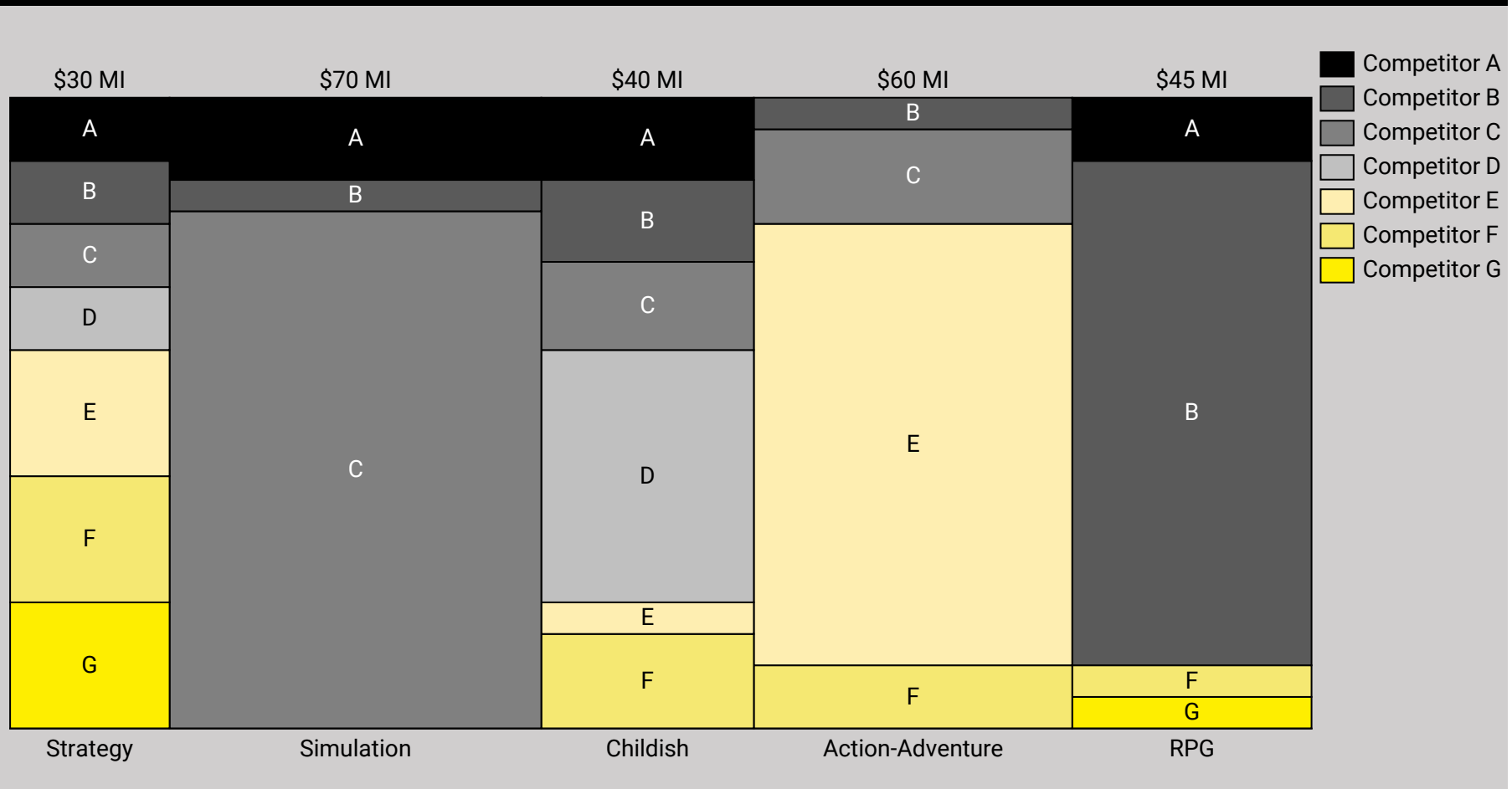


EXHIBIT 4: ACTION-ADVENTURE MARKET SHARE ANALYSES

Invested	\$1 MI	\$2 MI	\$3 MI	\$4 MI	\$5 MI	\$6 MI	\$7 MI	\$8 MI	\$9 MI	\$10 MI
Mkt share	1,43%	2,86%	4,29%	5,71%	7,14%	10,00%	10,05%	10,10%	10,15%	10,20%



CASE 2: BLACK PEARL

Difficulty: Medium

Industry: Scuba Diving

PROBLEM STATEMENT NARRATIVE

You and four other friends are in a diving trip to study aquatic animals from deep layers of the ocean. While the group is scanning the images taken by a drone, you see something totally unexpected: an old English ship, the BlaCC Pearl. In this shipwreck there is a treasure chest that was destroyed by the accident, showing a huge amount of gold coins. You discovered a treasure, what do you do next?

GUIDANCE FOR THE INTERVIEWER

- First, the candidate could analyze the possibility of not telling the authorities, that being against the law. If he considers this path, there are some information in the next part that will indicate that's not the smartest way, mostly because of the risks.
- After that, the candidate should ask the interviewer for quantitative data about the possibilities on where they could invest their money and also the estimated amount of money. Here let him think of some areas the money could be invested on.
- The next step after analyzing the data provided is to consider doing their own touristic business plan.
- At the end, the candidate must make a recommendation choosing to invest the money on their own touristic point, abording the reasons of that choice, the risks attached to it and the next steps the client should take. Warning: if the candidate makes other recommendation but with valid points attached to it, consider his possibility.

INFORMATION TO BE PROVIDED UPON REQUEST

- The shipwreck is located near the Australian coast.
- The profit division is going to be equal among the five people.
- The professions of the diving group on the vessel are: 2 biologists, 1 engineer, 1 history teacher and 1 sailor.
- There is no official record of this ship by the government.
- There are great chances that the ship is clandestine, that is, this treasure may have been stolen in the past.
- It can be considered that in total, the group has the necessary capital for exploration.
- It's necessary to consider the government participation in the case.

PART 1: TELLING THE AUTHORITIES

What should they do with the money?
Should they tell the government?

CALCULATIONS

- **Total for each member of the group:**

Coins value: U\$1.000.000

Costs for taking the coins: U\$500.000

Number of people: 5

Value to be shared between the group:
 $U\$1.000.000 - U\$500.000 = U\$500.000$

For each member: $U\$500.000/5 = U\100.000

INFORMATION TO BE PROVIDED UPON REQUEST

- After making a recognition, the engineer of the group estimated that there are about 250.000 coins, which could worth up to U\$1.000.000 at total, according to the history teacher.
- There is a price to take the coins out of the sea. Since we are talking about very deep waters, the operation will be very expensive, costing the group U\$500.000 to get them.
- The group can keep this discovery as a secret, but if they get caught, there are some legal consequences. According to British Law, every treasure found must be communicated to the government, who has the duty of helping with the analysis, but also the right of taking part of the treasure as a sort of tax. If they don't tell the government, the group could go to prison and lose the whole treasure.

CONCLUSIONS

- This scenario is too risky and may not be the most profitable one.
- Maybe it will be better if the group takes the money to invest in another business.

GUIDANCE FOR THE INTERVIEWER

- If the candidate doesn't think about the legal risks, try to guide him or her to ask for information on that matter.
- If the candidate tries to give their recommendation after making only the analysis of this option, try to guide him into part 2, by asking questions such as "Do you think that is the most profitable option for the group?", "Isn't there anything else they could do with the money?", "Maybe they could invest in something..."

PART 2: INVESTING THE MONEY

Supposing they told the government and now they want to know what to do with the money if not just share between them. In what business should the group invest the money?

INFORMATION TO BE PROVIDED UPON REQUEST

- The government will allow the group to have the coins, but it will charge a fee of 10% of the revenue from the business they invest in end up having.
- That means the now the group has U\$1.000.000 to invest in whatever they want.
- The group can only choose one business to invest in together.
- They have already mapped a few opportunities and now they are trying to decide which one is the best, according to the return of these businesses and the risks in each one of them (**show exhibit 1**). They are willing to take risks, but not too much.

INSIGHTS ON EXHIBIT 1

- Restaurant business is the least risky one, but it presents very little profit
- Beauty is riskier than Retail, but has a smaller profit, so it is not the best option
- Bank has the biggest return, but is a lot riskier than other investments, which means it is not the best option
- That leads the candidate to either Retail or Tourism. To solve this dilemma, the candidate will need more information (see guidance for the interviewer) about market growth expectations. If they ask anything related to it, **show them exhibit 2**.

GUIDANCE FOR THE INTERVIEWER

- If the candidate does not ask for more information and tries to make their decision based only on exhibit 1, try to guide them into asking for something else that could help them decide, using questions such as “Do you think you have everything you need to make this decision?” or “Can you think of any other information that could help you choose between these two sectors?”
- Do not give away exhibit 2 unless the candidate asks specifically about market expectations for the two sectors.

PART 2: INVESTING THE MONEY

INFORMATION TO BE PROVIDED UPON REQUEST

Information about the tourism sector in Australia:

- The country is very strong in this area, that being one of the most profitable activities
- There is already a lot of diving programs to see deep water animals
- There is not another shipwreck in the Australian coast, so there wouldn't have competition
- We still have the cost of the coins' extraction, but it will be covered by the treasure itself.

INSIGHTS ON EXHIBIT 1

- Retail business has a very low market growth expectation, specially when compared to tourism
- Although both business have good returns based on the risk they offer, with the information from exhibit 2 it is possible to infer that the best option of investment is tourism.
- The next step would be realizing that there is the possibility to make their own business instead an investment in someone else's. If he asks anything related to this, **show them exhibit 3.**

GUIDANCE FOR THE INTERVIEWER

- If the candidate tries to give their recommendation after concluding tourism is the best investment, try to guide him into part 3, by asking questions such as "Do you think that is the most profitable option for the group?", "We have the money to invest and an abandoned ship, and the tourism business seems very interesting...", "What if we try to open our own tourism business?"

PART 3: TOURISM WITH BLACK PEARL

COSTS ANALYSIS

- **Calculating year 1:**

Workers: U\$200.000

Equipment: $13.000 * U\$2 = U\26.000

Repair: U\$10.000

Platform: U\$50.000

Taxes: $10\% * U\$1.300.000 = U\130.000

Total: U\$416.000

- **Calculating year 2:**

Workers: U\$200.000

Equipment: $16.500 * U\$2 = U\33.000

Repair: U\$10.000

Platform: U\$50.000

Taxes: $10\% * U\$1.650.000 = U\165.000

Total: U\$458.000

- **Calculating year 3:**

Workers: $1,4 * U\$200.000 = 280.000$

Equipment: $18.250 * U\$2 = U\36.500

Repair: $U\$36.500 * 0,5 = U\18.250

Platform: U\$50.000

Taxes: $10\% * U\$1.825.000 = U\182.500

Total: U\$567.250

INFORMATION FOR THE INTERVIEWER

The candidate should calculate the revenues and costs of each year, to get to the total return of the investment. To get this information, they should ask for data on client's projection and/or business information such as ticket price, equipment, etc. Year 2 will not have any changes, but year 3 will have some differences in costs.

REVENUE ANALYSIS

- **Total revenue year 1:** $13.000 * U\$100 = U\$1.300.000$

- **Total revenue year 2:** $16.500 * U\$100 = U\$1.650.000$

- **Total revenue year 3:** $18.250 * U\$100 = U\$1.825.000$

PROFIT ANALYSIS

- **Profit year 1 :** U\$884.000

- **Profit year 2:** U\$1.192.000

- **Profit year 3:** U\$1.257.750

- **Total profit in 3 years:** U\$3.333.750

SAMPLE RECOMMENDATION

- The group should notify the government and use the coins and the ship they found to invest in opening their own tourism business with BlaCC Pearl.
- This is a growing business;
- The risk is not too big;
- It is legal;
- It is the most profitable option in the long term. We will have a profit of over U\$3.000.000, plus a cashflow of U\$500.000.

RISKS

- Disagreement between partners;
- Someone from the group may not want to invest their part of the treasure;
- Someone may show up claiming propriety over the ship and the coins;
- Clients projection may be too optimistic;
- Tourism is not an essential activity, which can make the business break in the event of a crisis.

NEXT STEPS

- Take the analysis we made to the partners to show them that the tourism business is the best option for their money, and it is the one that would bring them more profit in the future;
- Develop a nice marketing strategy to attract as much clients as possible;
- Make the arrangements with the British government to avoid problems with possible “heirs” of the ship and the coins.
- Use the future profit to invest in something else (perhaps expansion of current business or go to a new sector)

EXHIBIT 1

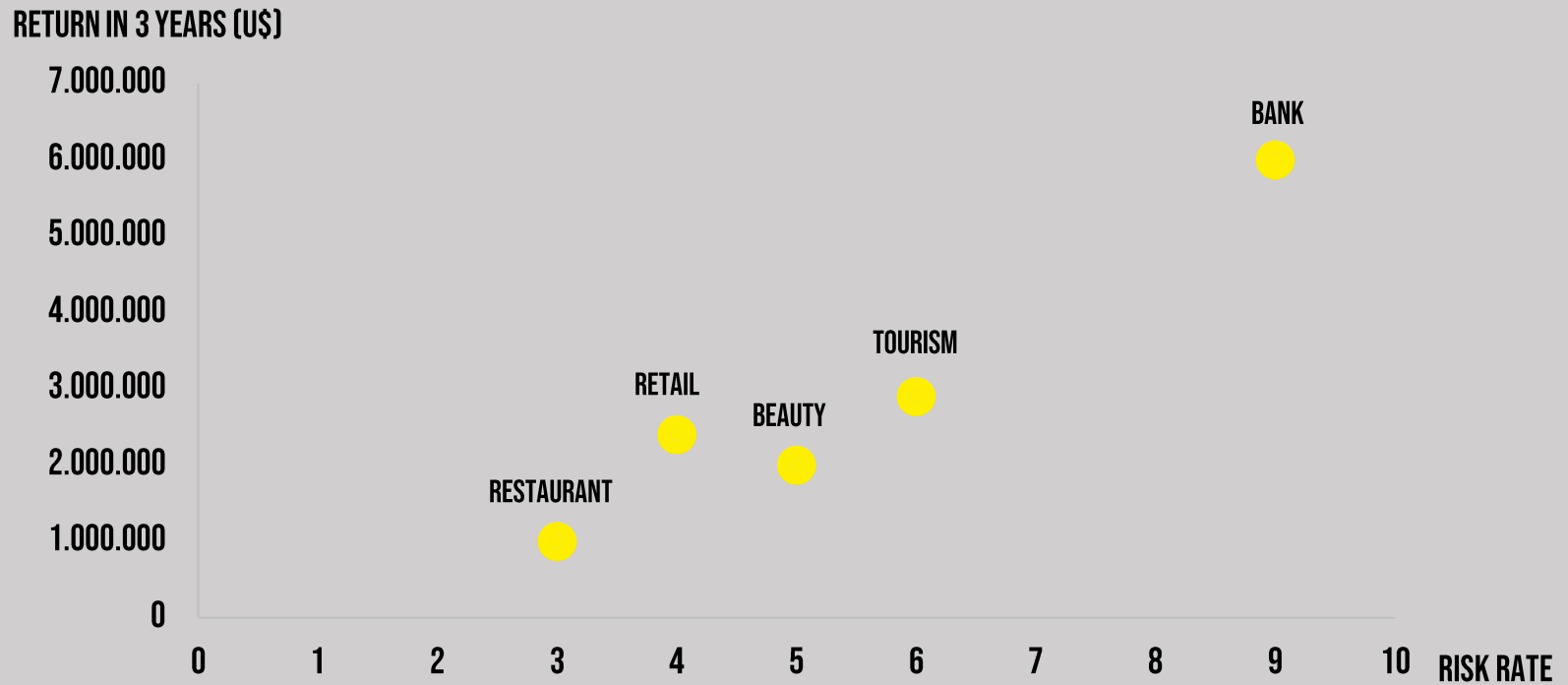


EXHIBIT 2

MARKET GROWTH EXPECTATIONS (P.P PER SECTOR)

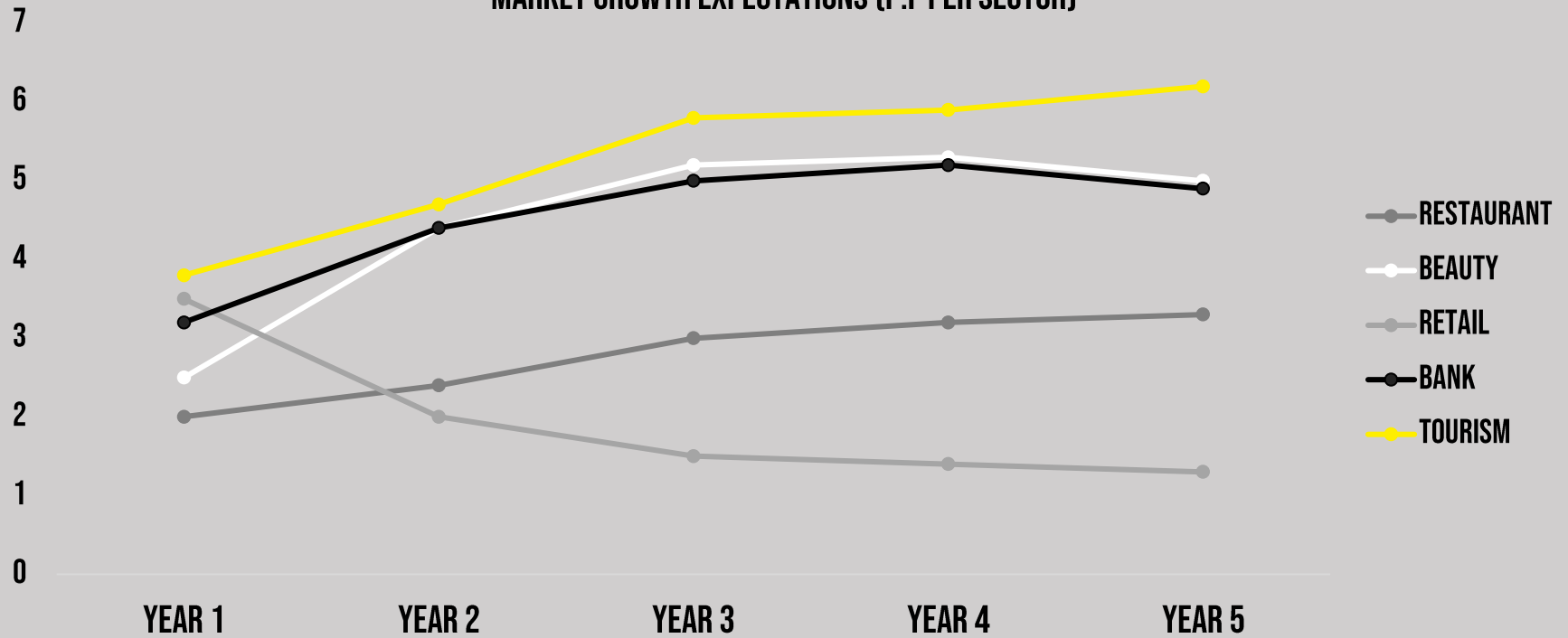
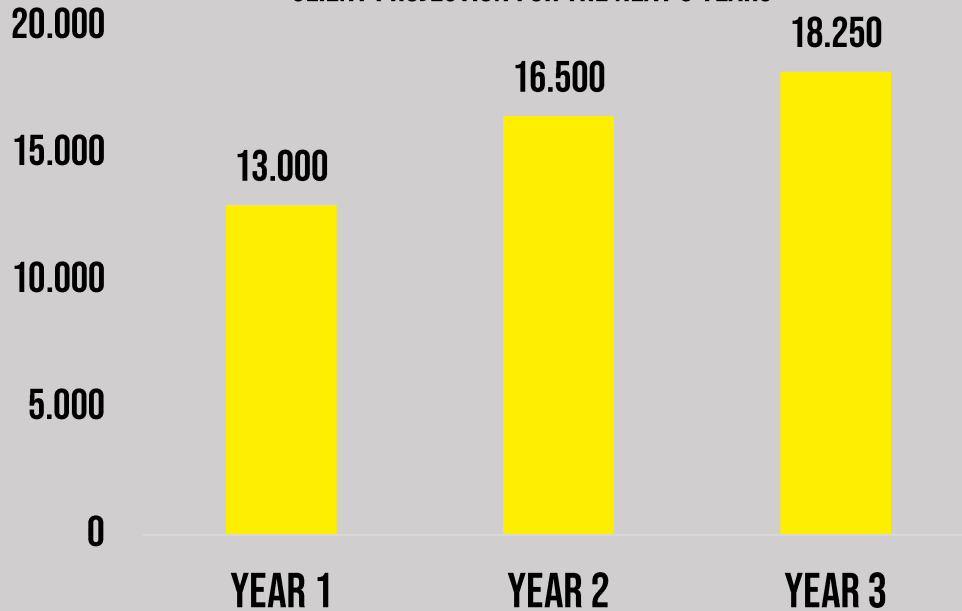


EXHIBIT 3

CLIENT PROJECTION FOR THE NEXT 3 YEARS



INFORMATION ABOUT COSTS AND REVENUE IN YEAR ONE

TOURISM ACTIVITY COSTS	US\$
WORKERS	200.000
EQUIPMENT (PER USE)	2
REPAIR	10.000
PLATFORM LOCATION	50.000

The diving touristic activity will be charged US\$ 100.

THIRD YEAR GROWTH INFORMATION

- Work force will increase 40%
- The repair price will be 50% of the equipment's total cost
- The platform price, taxes percentage and ticket price will remain the same

CASE 3: MARINE CO.

Difficulty: Medium

Industry: Retail

PROBLEM STATEMENT NARRATIVE

- A company with expertise in marine biology, Marine Co is thinking of starting to breed octopuses in captivity. It is an unprecedented undertaking and they have already developed the necessary technology for doing so. They hired UFRJ Consulting Club in order to determine if the idea is financially viable or not.

OVERVIEW FOR INTERVIEWER

- This is a profitability case, except the context makes it quite unusual. The point here is to force the interviewee into an outside the box analysis, in a market which he is not accustomed to and should put some effort into setting up the framework.
- Ask for the candidate's qualitative view and for him or her to raise concerning points all the time, thinking about the context in which the problem is inserted.
- If the candidate tries to go down the usual path of **profit = revenue - costs**, which he or she should do, say that these require less obvious approaches, more specific than the financial ones that are customary. Push the candidate into bigger picture thinking. It is interesting that the candidate considers what should be taken into account to assess ecological feasibility.

INFORMATION PROVIDED UPON REQUEST

- The undertaking has already been legalized (Food and Drug Administration Approved)
- The operations will still take a year to be ready and then the company needs 2 additional years to sell the first captivity octopuses
- This will be the first octopus farm in the world
- For the time being, MC intends to focus on the US market.
- Their definition of success is being profitable with low to no environmental impact.
- The idea is to buy some adult animals, then breed them, sell them, and, lastly, let the pups breed to restart the cycle.
- The selected species of octopus is carnivorous and feeds on needlefish.
- The octopuses will be sold to restaurants, bars, cafes and direct customers – for culinary purposes only. You may assume that MC's demand will be the one that cannot be attended by wild octopuses, though restricted by production capacity
- Total demand in 2015 was 17M kg and grows with the GDP.

ANALYSIS 1

- Market study and economic viability

ANALYSIS GUIDANCE

- Once the candidate presents the framework, make sure she starts with revenue.
- As we're aiming for **# of units sold X price** to calculate projected sales, whenever she asks for these data, first ask the candidate why, then show exhibit 1, and tell him/her that the kg price for octopus in 2015 was \$65,00.
- If the candidate tries to calculate the total market for octopus with the outdated price, ask him/her if they don't think that by using a 2015 price, they wouldn't be misguided by wrongful data?
- Ask her how's the best way to obtain a price as close as possible to the octopus' -- that is, by using benchmarks. If she needs some guidance, ask her what affects price (supply and demand), and how could we assess them.
- For this, we'll need the octopus's population over the last few years (exhibit 1). Then, of course, benchmarks, which are the projections of also price and population for 4 other marine species (beyond exhibit 2).
- The candidate is expected to look for the population behaving the closest to the octopus', finding price fluctuation which will be applicable for the octopus's.
- Once he has the price, calculation 1 is quick to tell him the # of products sold.
- Finally, for costs, the necessary creativity for the case should be explored in the framework, so it does not make sense to talk about specific costs again. You should give the numbers directly: the investments, as well as fixed and variable costs.

EXHIBIT 1

- Simple octopus population chart in recent years, candidate should note on first hand that it has been decreasing and, preferably, point out an hypothesis for why.
- *Candidate should point out that population should be directly related to supply
- Marine Co is expected to sell approximately 1,5 Million Kg in 2022

EXHIBIT 2

- A good candidate will identify that the best way to find projected price is via benchmark.
- Here, we have information on 4 different marine species, their population changes in recent and following years and how the market price has been and will be affected.
- The candidate should use the one with a population change closest to that of the octopuses: the **tuna** and assume the prices will behave accordingly.
- The octopus's Kg price in 2022 should be around \$80,00.
- In addition, the candidate should be concerned with specific external factors which could bias the benchmark. (but only point them out, not take action on them)

CALCULATION 1: REVENUE

- Total revenue = \$80,00 * 1,5 Million Kg sales (in 2022)
- Total revenue = \$120 Million

EXHIBIT 5 (COSTS INFORMATION)

- Investment so far: \$165 million
- Remaining investment: \$15 million
- Fixed costs: \$5 million
- Variable costs: \$100,00 per animal
- Each adult animal generates, on average, 2kg of meat

CALCULATION 2: COSTS

- \$50,00 per kg sold X 1,5 Million kg = \$75 Million in variable costs
- Total operational costs: \$75M + 5M = \$80 Million

CALCULATION 3: PROFIT

- First Year (2022) Profit: \$120M - 80M = \$40 Million

EXTRA: PAYBACK CALCULATION

- An excellent candidate should identify that by simply multiplying Y1 profits, he could find something close to the payback year.
- In another way: $\$40M * X > \$180M$
- Smallest value for X is 5, meaning if Y1 profits were to be maintained, payback would happen in Y5
- For a more precise calculation:
- Assume YOY demand growth for 2021 and on is 10%
- Assume price and costs stays the same
- $YN \text{ Profit} = \sum_{k=1}^n (1,5M * 1,1^k) * (80 - 50) - (k * 5M)$
- Candidate should project demand and, from there, find revenue, costs and profit for every year to come
- Payback happens whenever total profits surpass initial investments (> \$180M)
- Furthermore, an excellent candidate could ask for the benchmarks' payback metrics, comparing those to MC's payback. In that case, say payback in tuna farms usually happens in year 7.

ANALYSIS 2

- Ecological viability

ANALYSIS GUIDANCE

- Before bringing this up, ask the candidate if that's all he wants to analyze. If he paid attention to the problem statement, he'll know that low ecological impact is key.
- Then, ask him to come up (if not already in the framework) with focal points to evaluate the undertaking's impact.

*This is a qualitative analyses, the candidate shouldn't quantify the environmental impact, only point out risks.

FOCAL POINTS TO ANALYZE

Here are some that should frequently appear:

- Octopuses life conditions
- Ecological consequences of wild octopus population decrease
- MC's carbon footprint
- Slaughterhouse methods should be painless
- The fish used for feeding should be raised in captivity

EXTRA

- Excellent candidates should notice that unless the last focal point is accomplished, the project should not be ecologically viable
- She could also come up with other aspects of the company that may increase environmental impact, such as: package material, transportation methods, waste management etc.

CONCLUSION

- It's quite clear by now that the company has huge potential (profit-wise). As long as it does more good than harm to the environment, the project should be a go.

RISKS

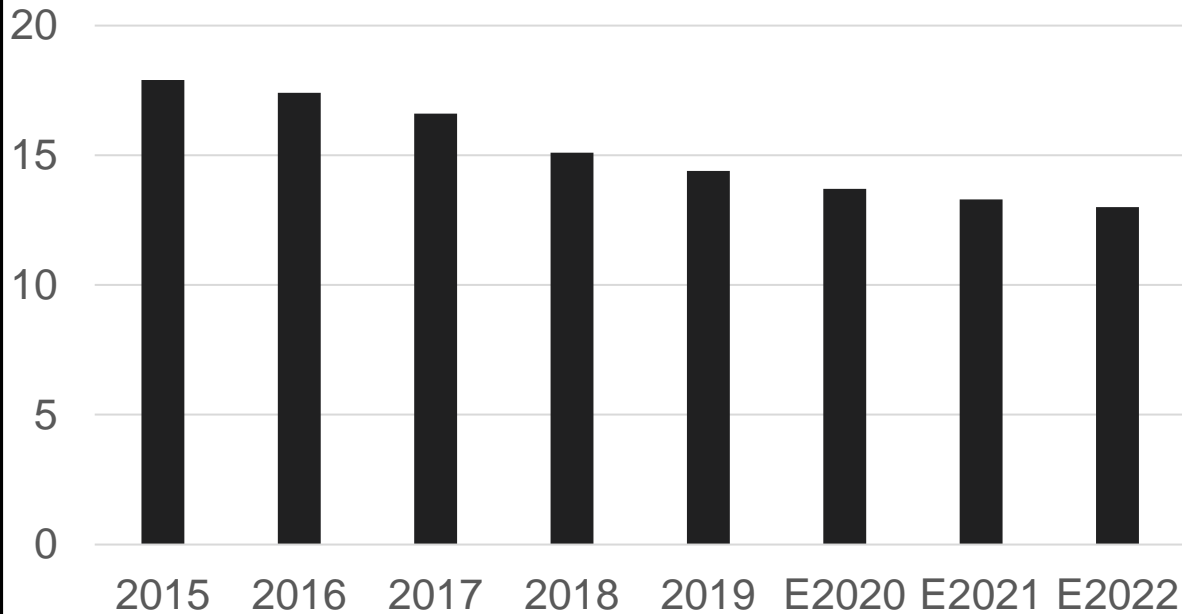
- Genetic issues breeding the pups between themselves
- Changes in regulatory law
- Benchmark uncertainty
- Customer resistance to non-wild octopuses
- Increase in wild octopuses population killing demand
- Problems with the technology development
- Schedule delay

NEXT STEPS

- Start a patent registration and bureaucratic procedures
- Evaluate demand projections: people migrating from wild to captivity octopuses consumption were not taken into account
- Finish development and start operations installation
- Create indicators of animals' wellbeing
- Study applicability of business model and technology to other marine species

EXHIBIT 1

Octopus population (millions of Kgs)

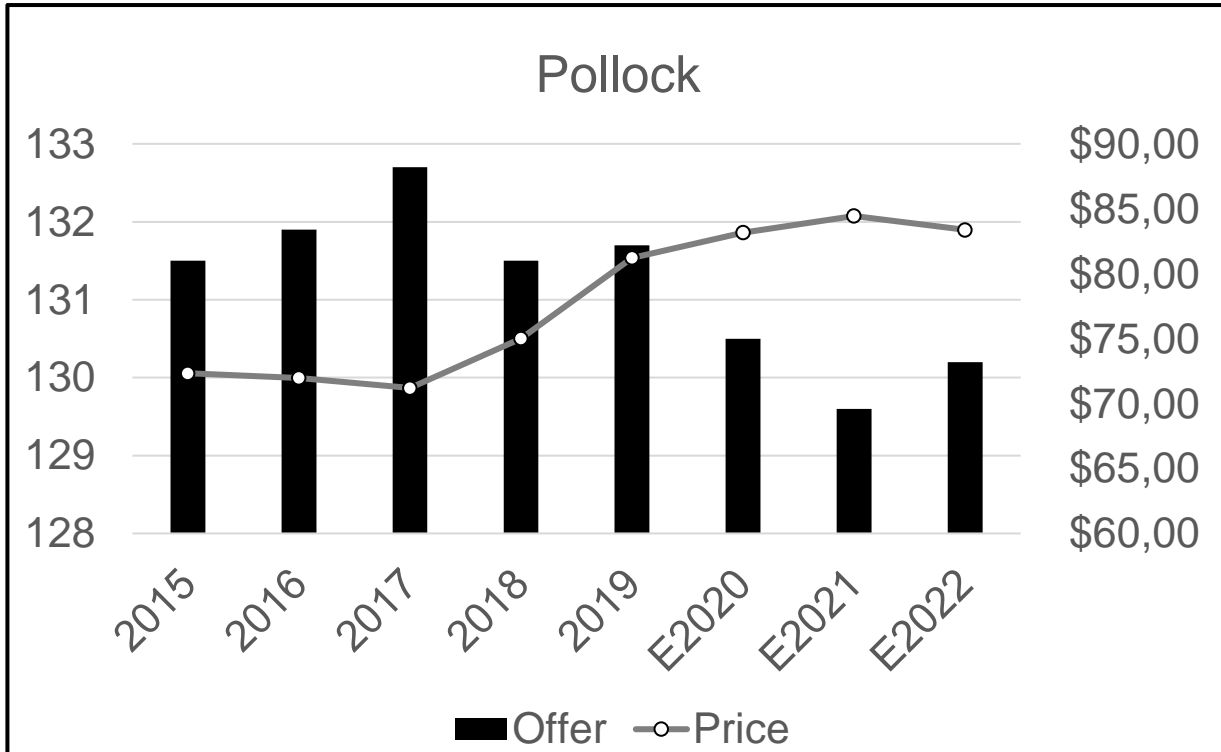


**GROWTH
PERCENTAGE**

(2015-2019): -20%

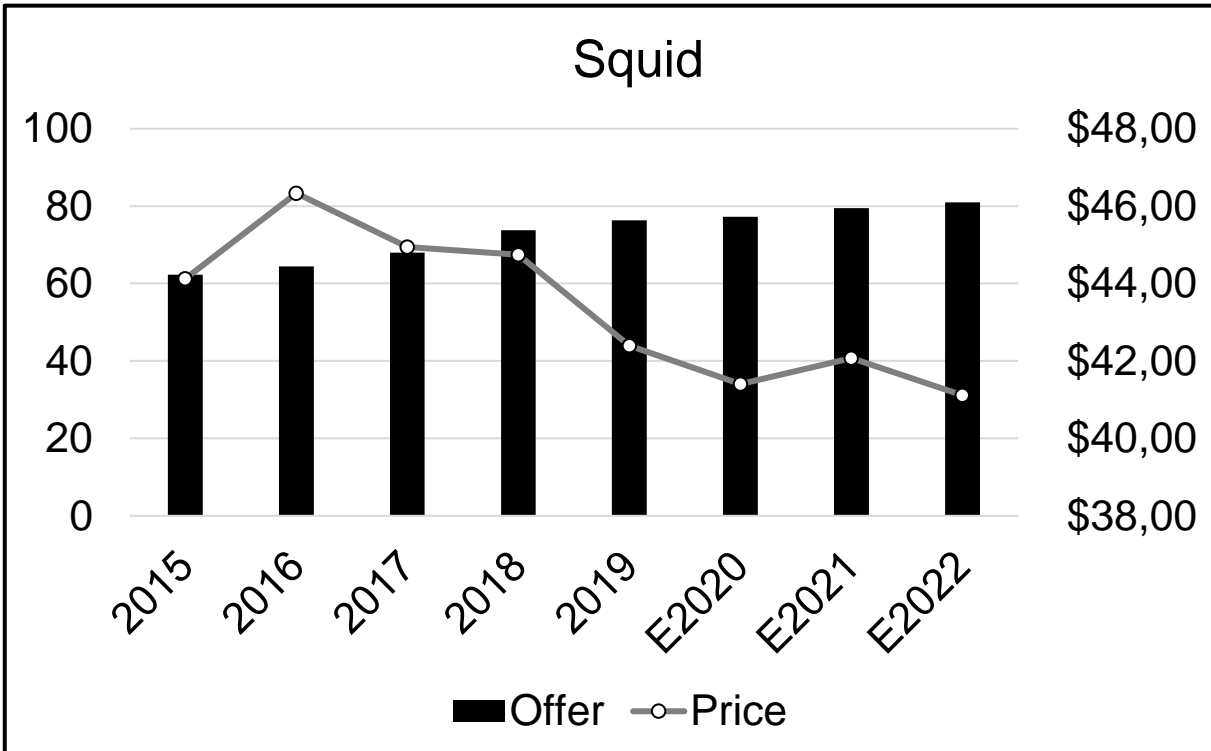
(2019-E2022): -10%

EXHIBIT 2



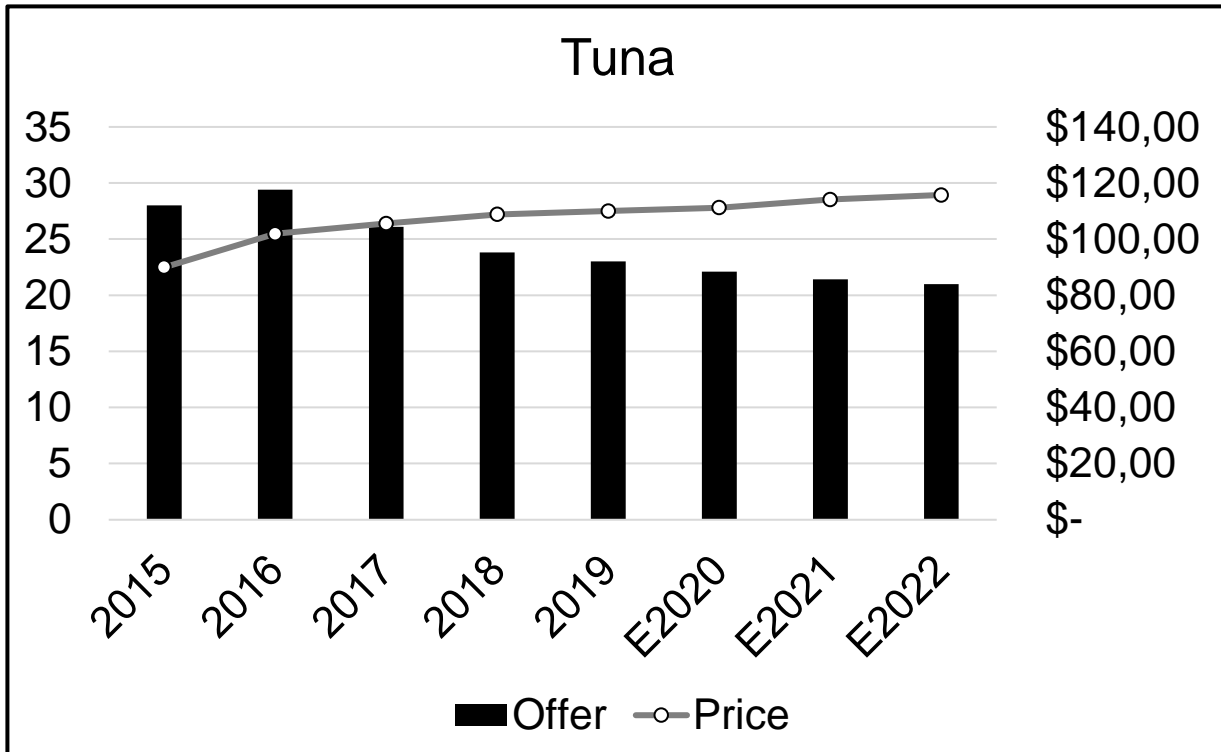
GROWTH PERCENTAGE	
Population (15-19):	0,15%
Population (19-E22):	-0,7%
Price (15-19):	12%
Price (19-E22):	5%

EXHIBIT 3



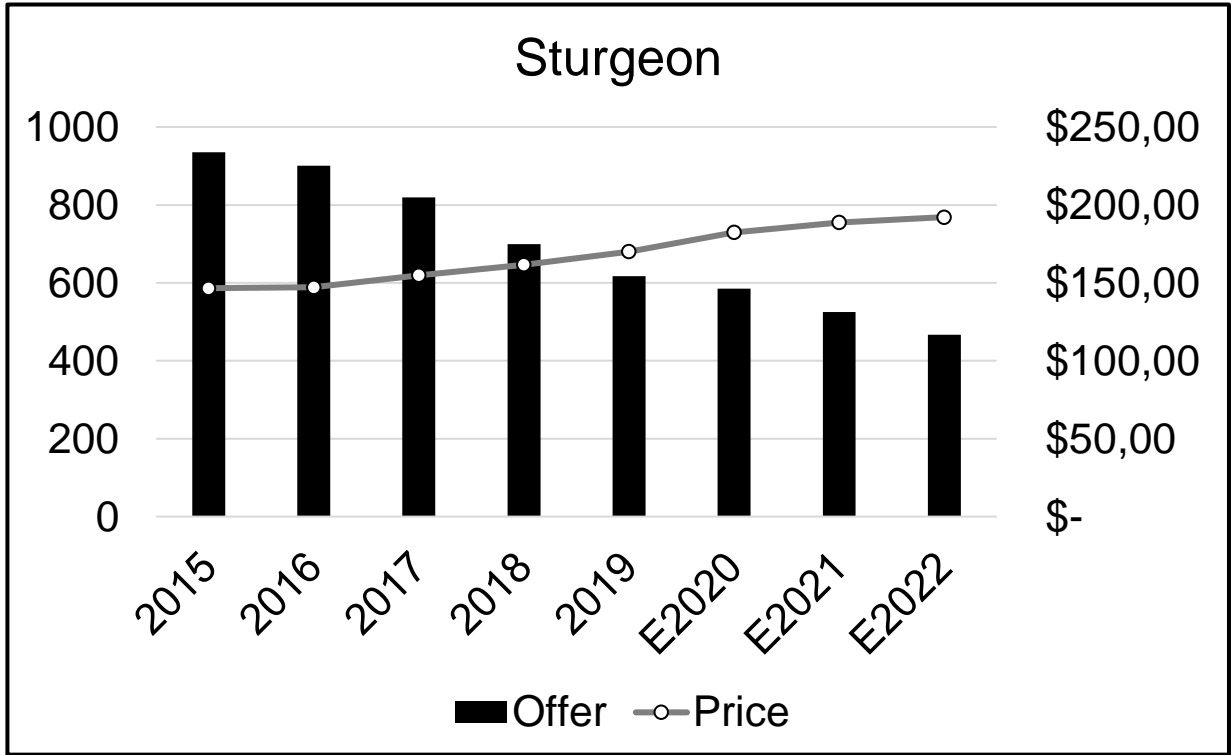
GROWTH PERCENTAGE	
Population (15-19):	22%
Population (19-E22):	5%
Price (15-19):	4%
Price (19-E22):	1%

EXHIBIT 4



GROWTH PERCENTAGE	
Population (15-19):	-20%
Population (19-E22):	-10%
Price (15-19):	22%
Price (19-E22):	5%

EXHIBIT 5



GROWTH PERCENTAGE	
Population (15-19):	34%
Population (19-E22):	20%
Price (15-19):	15%
Price (19-E22):	5%



CASE 4: EMAKER

Difficulty: Medium

Industry: Technology

PROBLEM STATEMENT NARRATIVE

A great enterprise of technology, the EMaker, manufactures and sell smartphones. As a smartphone manufacturer, EMaker produces and sell high aggregated value components to it competitors. Due to the growth of the market and its competitors, the CEO of EMaker wants you to decide if it is worth to keep selling those components for other enterprises or not.

GUIDANCE FOR THE INTERVIEWER

- The candidate must talk about the two possible forms of operating (selling components and smartphones or just selling smartphones).
- The case doesn't have a correct order for it to be solved, but the candidate need to go through part 1 and 2 in order to do it.
- (Part 1) He must ask about the current financial situation of the enterprise (selling components and smartphones).
- (Part 2) He must analyze which will be the changes in the financial result of the client if he stops selling the components. For example, the conquest of more market share.
- The candidate must focus in the net value and realize which one is financially the best scenario for the client by the calculations.

INFORMATION TO BE PROVIDED UPON REQUEST

- Our enterprise is the leader of the smartphone's market.
- The smartphone's market is quite popular and it's growing every year (CAGR of 7%).
- The enterprise and competitors operates worldwide.
- EMaker has factories worldwide, but it's main ones are located in China and the US
- She manufactures components like the touch-glass and processor from smartphones for her and for the other two biggest enterprises from the smartphone's market.
- The CEO asked us to chose between continue selling components or stop. There is no option of selling a bit less.

PART 1: MARKET SIZE

MARKET SIZE

How many people use smartphones = 8.1 billion

How often people change phones = 3 years

There are three groups divided by price ranges:

Popular:

Public = 5/9 of the total

Price = \$ 64

3 years revenue = \$ 8.1 X 5/9 = \$ 4.5 → \$ 4.5 X 64 = \$ 288 billion

Revenue per year = \$ 288 / 3 = \$ 96 billion

Average

Percentage = 3/9 of the total

Price = \$ 140

3 years revenue = \$ 8.1 X 3/9 = \$ 2.7 → \$ 2.7 X 140 = \$ 378 billion

Revenue per year = \$ 378 / 3 = \$ 126 billion

Expensive

Percentage = 1/9 of the total

Price = \$ 1000

3 years revenue = \$ 8.1 X 1/9 = \$ 0.9 → \$ 0.9 X 1000 = \$ 900 billion

Revenue per year = \$ 900 / 3 = \$ 300 billion

Total

Revenue per year = \$ 96 + \$ 126 + \$ 300 = \$ 522 billion

INFORMATION FOR THE INTERVIEWER

You should let the candidate think of ways to tell if changing the operation is worth and as the candidate start to ask about the market size, you should start to develop this slide with him. Don't do that before he mention market size.

Here the candidate must estimate the current market size of the smartphone market. He should start with a brainstorm of ideas on how to measure it. Let him think by himself, if it is not so similar to the idea suggested beside, guide the candidate to this structure. The candidate should only be helped with the calculations if he follows the same steps beside, but ends up stipulating very different values compared to the original ones. After that, the candidate should calculate the net value from EMaker as its market share is 21% (shown in the Exhibit 1). The schem below are the counts he needs to do.

NET VALUE CALCULATION

Market size = \$ 522 billion

Market share = 21%

Net Value = \$ 522 x 21% = \$ 110 billion

PART 2: COMPONENTS SELLING EARNINGS

INFORMATION FOR THE INTERVIEWER

The EMaker also earns money by selling smartphones components to two of their competitors (Sphone and I-Call). They pay an annual price of 10% of their Net Value to EMaker for that, as Emaker is responsible for 50% of their components. That represent 17 billion in addition to the revenue of the client.

MARKET SIZE

Sphone Market Share = 18%

Sphone Net Value = $522 \times 18\% = 94$ billion

I-Call Market Share = 14%

I-Call Net Value = $522 \times 14\% = 73$ billion

Net Value percentage paid to EMaker = 10%

Sphone Component payment = $89 \times 10\% = 9,4$ billion

I-Call Component payment = $73 \times 10\% = 7,3$ billion

Total received by the Components sale = $9,4 + 7,3 = 17$ billions

TOTAL EARNING

Net Value = 110 billion

Total received by the Components sale = 17 billion

Total earning per year = $110 + 17 = 127$ billion

OBSERVATION

It is worth mentioning that when analyzing the current format, we are ignoring the risk of losing market for innovations by smaller companies. That can be mentioned when addressing the risks and next steps in the case solution proposal.

PART 3: HYPOTHETICAL SITUATION (NOT SELLING COMPONENTS)

This part refers to the hypothetical situation of the company stop selling components to competitors. Thereafter, this competitors would be harmed by having to buy from more expensive suppliers.

GUIDANCE FOR THE INTERVIEWER

- If the candidate doesn't think about the capability of any affected company to develop their own components, let him follow without giving that information.

INFORMATION TO BE PROVIDED UPON REQUEST

- EMaker produces 50% of the components of Sphone and I-Call smartphones.
- As our client stop selling components to the competitors, both would lose 50% of their market share (net value).
- The candidate can get to the market share loss, based on the revenue from both clients earlier in the case or doing the following operations:
 $18\% \times 50\% = 9\%$ $14\% \times 50\% = 7\%$ $9\% + 7\% = 16\%$ loss
- That loss will be distributed only to our client and other 2 competitors (Top Phones and AsMobile), since the other player in the market is not able to absorb it.
- Sphone is capable to develop its own components, but it is up to the candidate to have this idea. You should not give this information if not asked to. If he talks about that at any moment you should give him that information.
- With this new information it wouldn't be 16% loss, instead it would be just the 7% loss from I-Call. Next slide will explain that better.

PART 3: HYPOTHETICAL SITUATION (NOT SELLING COMPONENTS)

CONCLUSION

In this moment of the case it will be created two paths, the right and the wrong one. If the candidate thought about the idea of a competitor doing their own components during this part, he will follow the right one, if not, he will follow the wrong one. Calculating the variables in the right one, the candidate should observe that the revenue is lower than the actual one, as in the wrong one the revenue will be way bigger than the actual.

After this part, the candidate should do his recommendation.

“RIGHT” CALCULATIONS

Market size loss from opponents

7%

Market share division

$7\% / 3 = 2,3\%$

New market share from EMaker

$21\% + 2,3\% = 23,3\%$

Total earings

$23,3\% \times \$ 522.000 = \$ 121.626 \text{ billion}$

“WRONG” CALCULATIONS

Market size loss from opponents

16%

Market share division

$16\% / 3 = 5,3\%$

New market share from EMaker

$21\% + 5,3\% = 26,3\%$

Total earings

$26,3\% \times \$ 522.000 = \$ 137.286 \text{ billion}$

CORRECT RECOMMENDATION

- He must say that it is more profitable for the company to continue as it is today, since it earns \$ 127 billion dollars now and it would earn just \$ 121.626 billion without selling the components. It isn't a big difference, but it is less revenue and it could impact the company.

RISKS

- Competitors who buy our client components can develop their own and thus decrease our customer's revenue.
- If EMaker does not invest in its own phone, it may lose market share over time.

NEXT STEPS

- Invest more in their own phone to further increase their market share.
- Invest in innovations in the components in order to sell even more to Sphone and AsMobile.
- Try to sell components to more competitors.
- See more possibilities to increase your market share, such as M&A or R&D.
- Patent their products.

WRONG RECOMMENDATION

- He should say that it is more profitable for the company to stop selling its components, since it would gain the share of its competitors and thus be much more profitable than if there was no change. The company will earn \$ 137,286 billion dollars instead of the actual \$ 127 billion. It's a huge difference that could rocket the company in the smartphone market.

RISKS

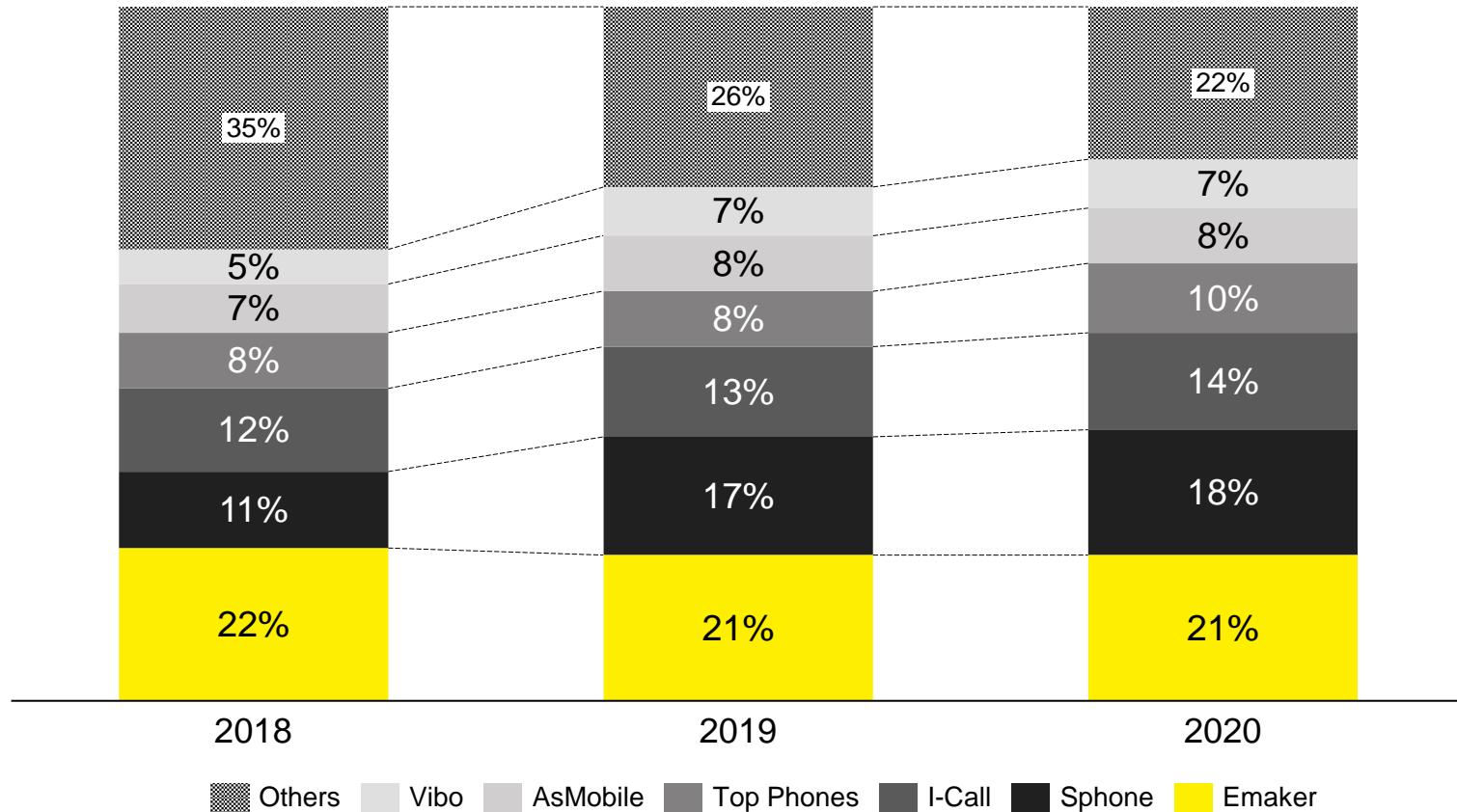
- Competitors who buy components can develop their own, and in some extreme case they can surpass the quality of our own customer, thus gaining more clientele and market share. While our client would gradually lose its share.
- The loss of competitor's share may be less than expected and consequently our customer's gain may be smaller as well.
- EMaker may not absorb as much of the competitor's share as expected.

NEXT STEPS

- EMaker must invest in its own phone (improve functionality, quality of components, marketing), to further increase its share and dominate the market. If you don't invest, you may not be able to make the most of your market share advantage over time.
- See more possibilities to increase your market share, such as M&A or R&D.

EXHIBIT 1

MARKET SHARE FROM THE SMARTPHONE INDUSTRY



INSIGHT ON EXHIBIT 1

- The market is getting concentrated in big players as the “others” are losing a lot of share.
- Our client is the bigger player in the market and has remained stable in the period.
- The second biggest player in the market has grown a lot in the period and is just 3 percentage points far from our client

POTENTIAL ACTIONS BASED ON EXHIBIT 1

- Our client could lose more share in future as the smaller companies start to develop new products
- EMaker can take advantage of that by selling even more components or by buying some small companies that could be a threat or a promising company
- Our customer should be aware and develop innovative products in order to maintain and grow even more its Market Share



CASE 5: TECH CO.

Difficulty: Medium

Industry: Home Appliance

PROBLEM STATEMENT NARRATIVE

Your client is Tech Co, a player of the home appliances market consolidated since 1970. In recent years, the company has been losing market share and, as a result, profitability. The CEO came to you to solve this problem with short/medium term solutions.

INFORMATION TO BE PROVIDED UPON REQUEST

- Main active market: United States.
- It is the third largest company in the market.
- Target audience: adults between 25 and 50 years old.
- The market has been stable for years and projections suggest it will continue that way. Also, the company has been selling the same products over the past years.
- They currently have a net value of \$30 billion.
- The client considers a good result to have 15% p.p. (percentage points) increase on profit.
- The company is thinking in short/medium term.

GUIDANCE FOR INTERVIEWER

- This is an candidate-led case*.
- A good candidate will try to explore the introduction of the case as much as possible.
- The candidate should explore the profitability side (lost of share), which is not supposed to last long so that the candidate can focus on ways to raise money.
- A good structure will include three major aspects: profitability, competitors (market share and market size) and different paths to solve the cash problem.

*Candidate-led case: Throughout the case there will be some questions directed to the interviewee that should be asked. In addition, the case contains guides for the interviewer to direct the interviewee.

PART 1: FINANCIAL ANALYSIS

GUIDANCE FOR INTERVIEWER

- A good structure should segment analysis into market share and market size.
- If the candidate asks questions like: "What is the market size and how do I position myself? How do my competitors act?", then **show Exhibit 1**.

EXHIBIT 1 ANALYSIS

- Tech Co **lost 10% of share**.
- Competitor 4 and 5 together **gained 10% share** over the four years.
- Market size remained **stable** (small variations between \$98 bi and \$100 bi).
- The company's **revenue is \$30 Billion** (30% of 100 Billion - Market Size).

EXHIBIT 2 ANALYSIS

- The company **is investing much less in R&D** than the market. According to the client's objective, he wants to **increase profitability by 15% p.p.**, increase profitability by 15% p.p., so it needs to increase the R&D investment return from 5% to 20%, given that all companies have the same efficiency of return over % of revenue invested in R&D. To do this, he must invest proportionally the same as competitor 5, a total of 15% of his revenue (15% of \$30 Billion (Tech Co revenue) = 4,5 Billion).*The candidate doesn't need to calculate the actual investment of Tech Co on R&D, this information will be given on Exhibit 3).

POSSIBLE FOLLOW-UP QUESTIONS 1

- What is the competition doing differently to gain share?
- **Ask the candidate:** "What are the possible options?". Try to induce to R&D, while the candidate is brainstorming, with the question - What is a driver in the technology market?, then **show Exhibit 2**.

POSSIBLE FOLLOW-UP QUESTIONS 2

- How is the company's financial health? Does the company have financial capacity to invest? Thinking of just investing more in R&D.
- Show the company's **Cash Flow** (Exhibit 3).

PART 1: FINANCIAL ANALYSIS

GUIDANCE FOR INTERVIEWER

- In this stage of the case, the candidate needs to analyze the cash flow (exhibit 3).
- Therefore, he needs to go through each category within the cash flow, minimally understand the company's financial situation and conclude whether or not there is enough money to invest in R&D.

EXHIBIT 3 ANALYSIS

- Currently, TeCCh Co invests **\$2.5 Billion in R&D** (which is possible to see as well on Exhibit 2, 8% of its revenue) and has **2 Billion available**.
- As analyzed on Exhibit 2, TeCCh Co needs to invest at least \$4.5 Billion in R&D this year to increase its profitability by 15% p.p. (percentage points).
- Investing everything available, it would reach a total of **\$4.5 Billion** (\$2.5 R&D + \$2 available), **with a zeroed Cash Flow**. Therefore, the conclusion is that the **company doesn't have enough money** to invest, because it's necessary to leave **12,5% for working capital*** (give the information only if the candidate makes this consideration).

POSSIBLE FOLLOW-UP QUESTIONS

- Ask the candidate: "What to do in order to have the rest necessary to invest in R&D leaving money for working capital?".
- Try to induce, while brainstorm, to invest the actual money.

* Working Capital: money the company has to cover and maintain its day-to-day operating expenses.

PART 2: DIFFERENT PATHS

INFORMATION TO BE PROVIDED UPON REQUEST

- It is possible to obtain capital in different ways. In this context, the case allows the interviewee to choose between **three different paths**, requiring the interviewee to **choose** one of them (all of them are correct). Are they:
 1. Loans;
 2. IPO (Initial Public Offer)*;
 3. Investment.

*IPO (Initial Public Offer): process in which a company sells its shares to the public for the first time.

PATH 1: LOANS

- Due to the company already invests \$2.5 million in R&D and having (\$2 million in cash*(1-12,5%)) = **\$1.75 million available** for investment, it needs a loan of **\$250 million** to complete the required amount in R&D of \$4.5 million.
- Tell the candidate that it is possible to take the loan at the same bank that the company already have one, with the low interest at the market, of **5% p.y.** and payment in **1 year**. This way, it would have to pay \$262,5 Million at the end of year 1, which as, shown by exhibit 3, is much less than the company's profit and cash flow. It represent an increase of 26,2% on loans.(\$1 to \$1,26 Billion).

PATH 2: IPO

Costs:

- If the candidate make the consideration, tell him that to carry out the IPO process it is necessary to **spend \$2 million** in fees (before giving the cost value ask him if he imagines what those costs can be, for example: hiring of consultants, stock exchange taxes...).

Earnings:

- Considering the Market Share shown on **Exhibit 1**, it's possible to approximate Tech Co's worth to **\$30 Billion**. It's possible to make this approximation because uncertainty pulls the company's value down, while future earnings pull it up, so in practice, it's almost the same.
- If the candidate make the consideration about the CEO losing control of his company because of new shareholders, tell that he only wants to sell-off **5%** of the company.
- Also, our client expect, by benchmarking, that the company sells it's stocks for **\$50**.
- **By that, the company needs to sell:** $(\$30 \text{ Billion} * 0,05) / 50 = 30$ Million stocks.
- If that happen, the company will earn $(30 \text{ Million} * \$50) - \$2 \text{ Million} = \mathbf{\$1,498 \text{ Billion}}$.

If the candidate asks, give the information that the whole process of IPO lasts at least **two years**.

PART 2: DIFFERENT PATHS

PATH 3: INVESTMENT

- Insight of not investing everything to avoid the risk of the company going bankrupt: **the company needs to leave 12,5% for working capital (give the information only if the candidate makes this consideration)**. This way, it aims to “transform” \$1,75 Billion (available cash discounting working capital) into **\$2 Billion** (\$4.5 Billion (R&D investment of competitor 5) - \$2.5 Billion (already invests) = 2 Billion).
- **Show Exhibit 4:** analyzing the assets, the candidate must consider the **risk column**, in which it should be explained that they are listed by % of risk: for account it means that the value of **the risk must be discounted of the % of yield**. Also, the client only **take a maximum risk of 20%** (give the information only if the candidate makes this consideration).
- If the question arises as to **why not invest everything in a single asset with greater profitability**, say that the CEO does not like to take risks and therefore prefers to diversify. Also, tell the candidate that the client only make equal investments in different assets, example: if you have \$1000, you can invest \$500 on **x** and \$500 on **y** (give the information only if the candidate makes this consideration).

CALCULATIONS

Considering the risk, the yield for each type of asset is:

- Basic Interest Rate: $10\% * (1 - \text{risk } (15\%)) = 8.5\%$
- Pre-fixed: 5% (no risk)
- Company in the retail market: $25\% * (1 - \text{risk } (20\%)) = 20\%$
- Dollar Index: $5\% * (1 - \text{risk } (20\%)) = 4\%$

Therefore, you should invest in the highest yielding assets: **Basic Interest Rate and Company in the retail sector**

Investing 1 Billion in the short term (1 year):

875 Million at Basic Interest Rate:

$$875 * (1.085) = \sim \$950 \text{ Million}$$

875 Million in the Company in the retail sector:

$$875 * (1.2) = \sim \$1,05 \text{ Billion}$$

Total yield = 950 Mi + 1,05 Bi = 2 Billion (target completed)

SAMPLE RECOMMENDATION 1

Ask the candidate to prepare a brief recommendation for the CEO:

Client should take a loan of \$250 Million from the same bank that already has. This way, it'll be able to invest immediately more \$2 Billion in R&D in order to recovery it's share and continue growing and innovating in the market.

RISKS

There are three major risks:

- The company contracting a debt at a time of loss of profitability, which in extreme cases can lead to bankruptcy.
- The return on profit of the investment in R&D isn't the same proportionally of competitor 5.
- The home appliances market is stable, so to gain market share after invest more in R&D, the company will probably need to "steal" a competitor portion.

NEXT STEPS

Possible follow-up actions are:

- Analyze possible strategies for the company not to lose share until this action plan has an effect, like invest on marketing.
- Cost optimization.
- Product mix analysis.
- Pricing compared to competition.

SAMPLE RECOMMENDATION 2

Ask the candidate to prepare a brief recommendation for the CEO:

Client should hold its IPO by selling 5% of the company in the market by \$50 each stock. In addition, after the process is concluded, the recovered amount of \$2 Billion will be reverted to investment in R&D.

RISKS

There are four major risks:

- The company needs to spend a high amount of money at a time of loss of profitability, which in extreme cases can lead to bankruptcy.
- Despite being a short/medium-term strategy, until it the IPO is concluded, the company will continue to lose share.
- The return on profit of the investment in R&D isn't the same proportionally of competitor 5.
- The home appliances market is stable, so to gain market share after invest more in R&D, the company will probably need to "steal" a competitor portion.

NEXT STEPS

Possible follow-up actions are:

- Collect income and invest in R&D.
- Analyze possible strategies for the company not to lose share until this action plan has an effect, like invest on marketing.
- Cost optimization.
- Product mix analysis.
- Pricing compared to competition.

SAMPLE RECOMMENDATION 3

Ask the candidate to prepare a brief recommendation for the CEO:

Client should invest \$875 Million on Basic Interest Rate and \$875 Million on retail company stocks, leaving 12,5% of the available cash on hand for working capital (250 Mi). In addition, after 1 year, the recovered amount will be reverted to investment in R&D.

RISKS

There are four major risks:

- Some financial application does not perform as expected.
- Despite being a short/medium-term strategy, until it works, the company will continue to lose share.
- The return on profit of the investment in R&D isn't the same proportionally of competitor 5.
- The home appliances market is stable, so to gain market share after invest more in R&D, the company will probably need to "steal" a competitor portion.

NEXT STEPS

Possible follow-up actions are:

- Collect income and invest in R&D.
- Analyze possible strategies for the company not to lose share until this action plan has an effect, like invest on marketing.
- Cost optimization.
- Product mix analysis.
- Pricing compared to competition.

EXHIBIT 1: U.S. HOME APPLIANCES MARKET SIZE AND SHARE

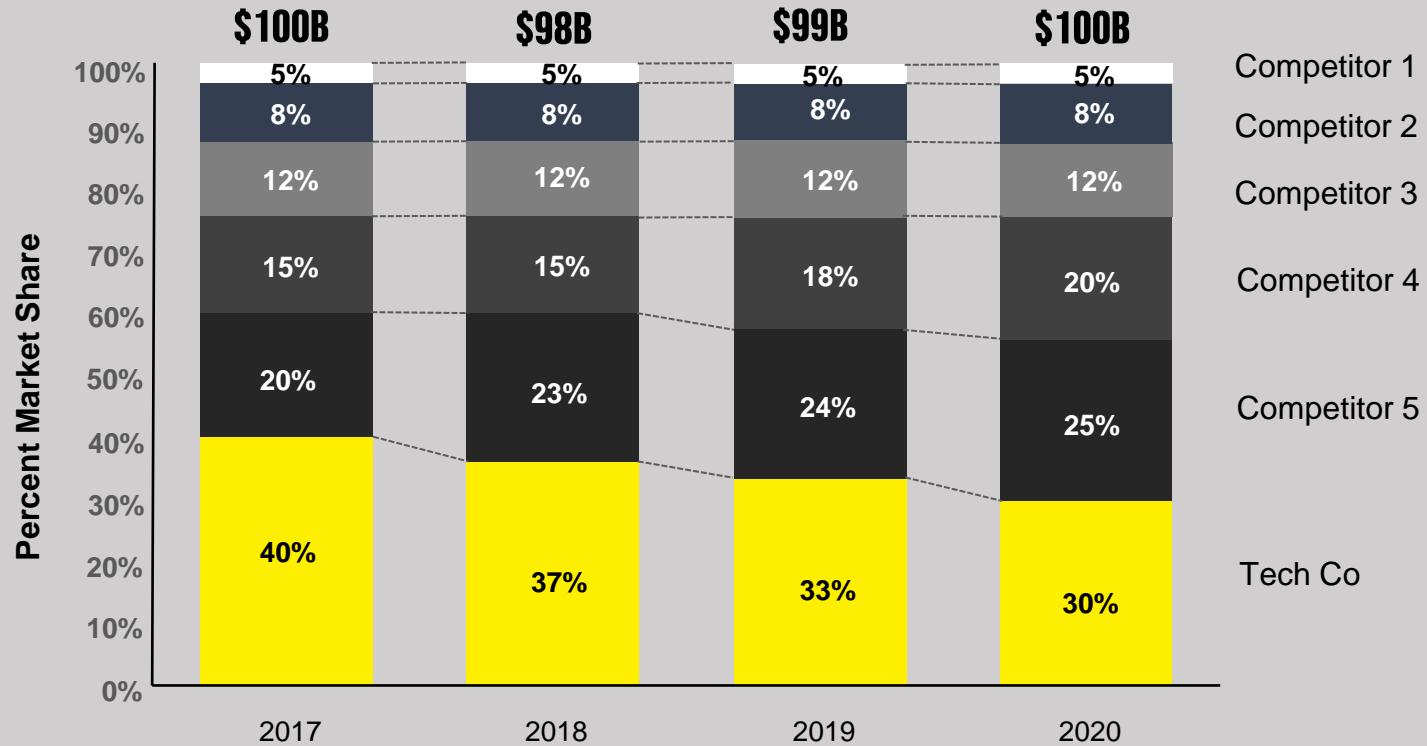


EXHIBIT 2: R&D EXPENSES

Return on Profit

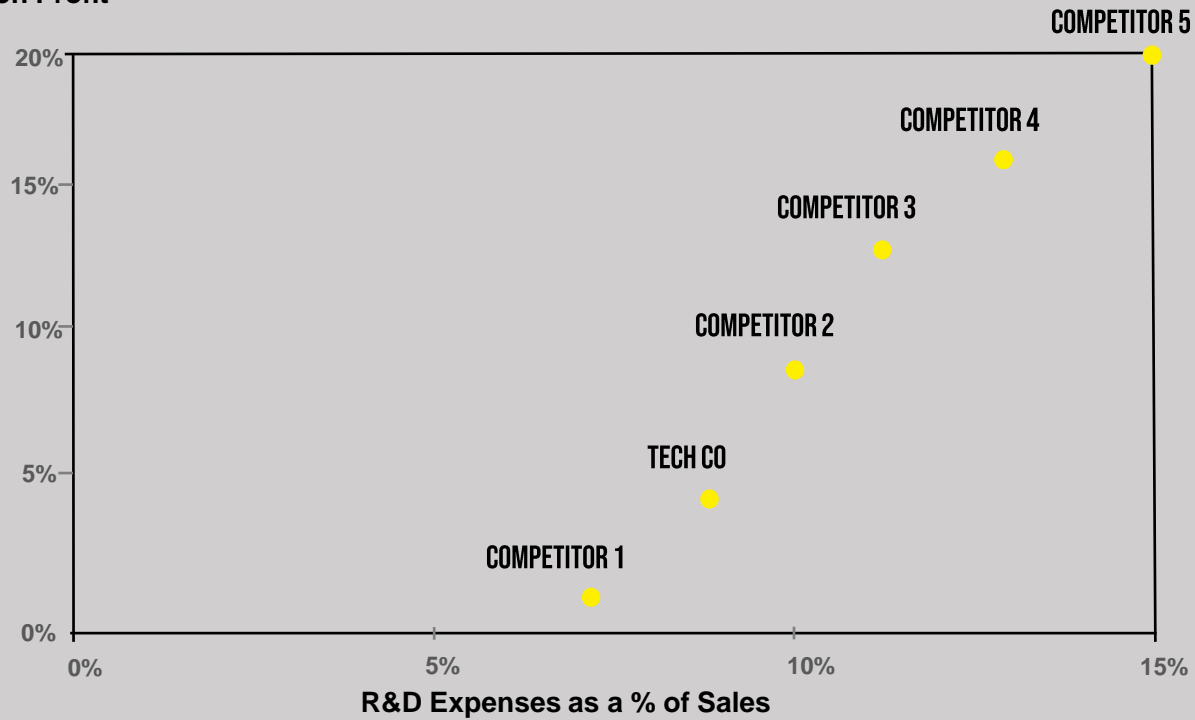


EXHIBIT 3: CASH FLOW

CASH FLOW (MILLIONS)	
FROM OPERATIONS	
2020 profit	\$ 5.400,00
Depreciation	\$ 20,00
Suppliers	\$ - 30,00
To Receive	\$ 110,00
Cash Flow from Operations	\$ 5.500,00
FROM INVESTING	
R&D	\$ - 2.500,00
Cash Flow from Investing	\$ - 2.500,00
FROM FINANCING	
Loans	\$ - 1.000,00
Cash Flow from Financing	\$ - 1.000,00
2019'S CASH	\$ 4.000,00
2020'S CASH	\$ 2.000,00

EXHIBIT 4: INVESTMENT

ASSETS		PRICE	YIELD	RISK
Public Bond	Basic Interest Rate	\$100 / each	10% p.y	15%
	Treasury Yield	\$100 / each	5% p.y	-
Stock	Retail Company	\$100 / each	25% p.y	20%
Index	Dollar	\$100 / each	5% p.y	25%

PUBLIC BOND	Government bonds are issued by the National Treasury to finance the activities of the Federal Government. Those who invest in government bonds are buying debt securities.
STOCK	Shares represent a fraction of a company's share capital. When buying a share the investor becomes a partner of the company, that is, of a business. He starts to run the risks of this business as well as participates in profits and losses as any entrepreneur.
INDEX	The dollar index is one of the main references to the value of the US dollar and is the most traded monetary index. The dollar index measures the value of the US dollar against a group of six currencies.



CASE 6: DOCTORS AWAY

Difficulty: Medium
Industry: NGO

PROBLEM STATEMENT NARRATIVE

Your client is Doctors Away, an NGO (Non-Governmental Organization) that offers medic and humanitarian help countries in need. The world is facing a new virus, that has recently acquired the ability to infect humans, and it has been spreading around the world really fast, to the point that governments have already declared an estate of pandemic. Our client reached us because they have a dilemma: right now there are two countries that are the focus of contamination and that need their help. However, the NGO can go to only one of them at a time. Which of the countries should they help first?

GUIDANCE FOR THE INTERVIEWER

- In order to solve this case, the candidate should be able to think about quantitative and qualitative analysis and point out the pros and cons of going to each country first.
- First, the candidate should do the calculations to find out how many people would be affected by the virus without any help, and then use the number of lives the NGO can save to see, relatively (percentual), in which country Doctors Away would have the biggest impact.
- After that, the candidate should ask the interviewer for qualitative data. He or she should think about checking the financial viability of the project in each country, considering the NGO's donations. A good candidate should also think about the presence of other NGO's in both countries as a good possibility for synergy. If he or she doesn't come up with this points on their issue tree, the interviewer must guide then until they ask for this information.
- At the end, the candidate must make a recommendation choosing one of the countries, abording the reasons of that choice, the risks attached to it and the next steps the client should take. Warning: this is an open recommendation case. The candidate can choose any of the two countries, as long as he can justify that choice.

INFORMATION TO BE PROVIDED UPON REQUEST

- The two countries we must look are Somalia and Pakistan. If the candidate asks for information about these two countries, tell him or her this can be analyzed later on.
- Doctors Away is present in 11 different countries, in Africa, Asia and Central and Latin America, but they are not active in either of the countries we are considering yet.
- The NGO obtains resources through donations, and now it's healthy financially speaking.
- Our client's proposal is to alleviate human suffering in the face of emergencies by mobilizing the power of volunteers and the generosity of donors.
- Currently, our client has about 1000 doctors, 2000 nurses and 3500 other volunteers available for this project, and all that team can reduce the number of infection and treat about 500.000 people in two years.
- We can considerate that all hospitals are almost in full capacity, so our help would be very useful in both countries.

POSSIBLE FOLLOW-UP QUESTIONS FOR EXHIBIT 1 (HAND THIS EXHIBIT IF CANDIDATE ASKS FOR INFORMATION ABOUT THE TWO COUNTRIES)

What is the relative impact of our client in each country?
What can we conclude about this information?

CALCULATIONS OF RELATIVE IMPACT

• Impact in Somalia:

Year 1: $15.000.000 * 0,05 = 750.000$

Year 2: $(15.000.000 * 1,03) * 0,05 = 772.500$

Total of infected: Year 1 + Year 2 = **1.522.500**

People the NGO can take care of with current staff:
500.000

Relative impact: $500.000 / \text{Total of infected} = \sim 33\%$

• Impact in Pakistan:

Year 1: $212.000.000 * 0,02 = 4.240.000$

Year 2: $(212.000.000 * 1,018) * 0,02 = 4.316.320$

Total of infected: Year 1 + Year 2 = **8.556.320**

People the NGO can take care of with current staff:
500.000

Relative impact: $500.000 / \text{Total of infected} = \sim 6\%$

INFORMATION TO BE PROVIDED UPON REQUEST

- About the health care system in Somalia: extremely poor, and they depend a lot of humanitarian help.
- About the health care system in Pakistan: is better than Somalia's system, but it is too expensive for the people to afford it.

INSIGHTS ON EXHIBIT 1

- The impact in Somalia is bigger
- The lack of sanitary conditions can be a negative factor, since governments are not investing in people's health
- The GDP in Pakistan is bigger, so people have a bigger possibility of being able to pay for a future cure
- Our client is already active in countries nearby Pakistan. That could mean a possibility for cost synergies, for example.

INSIGHTS ON EXHIBIT 2

- Costs in Pakistan are smaller than in Somalia.
- This is explained easily when you know that the NGO already has base camps in countries near Pakistan.
- In 2019, the NGO Doctors Away didn't have enough money to help neither of countries. It's only in 2020 that they have extra money available.
- If you choose to help the least expensive country, the money of the donations can be used in other projects.
- The costs in Somalia are getting more expensive while since 2020 the amount of donates are going down. This can be a problem if our calculations of costs are incorrect, invalidating Somalia in a long term analysis.

INSIGHTS ON EXHIBIT 3

- The impact in Somalia is bigger.
- Besides the problem with the pandemic, Somalia already has to deal with issues related to health, as there is a lot of NGOs trying to solve the hunger problem.
- Doctors Away can be a big player in humanitarian help in Pakistan.
- Somalia receives more humanitarian help than Pakistan
- Maybe if there isn't a lot of help from other institutions in Pakistan it means that they don't need it as much as Somalia.
- There are two organizations that work on both countries (C.A.R.E. and The Red Cross), those two can possibly help our client to reduce costs in both projects in the future, as the next step is going to the country that wasn't selected. C.A.R.E has a different proposal, focusing in providing disaster relief, fighting poverty, & helping educate children. Red Cross has the same proposal as our client.

GUIDANCE FOR THE INTERVIEWER ABOUT THE RECOMMENDATION

Before the candidate structures his or her recommendation, ask him or her about his or her opinion given all the information so far. The idea is to play the devil's lawyer, making the candidate question himself, although this is an open recommendation case.

The interviewer must evaluate the justifications, not the chosen country. The risks will depend on the option the candidate chooses to follow, and so will the next steps. But, at the end, the candidate should suggest going to the next country whenever is possible, regardless of the country he or she chooses.

SAMPLE RECOMMENDATION: SOMALIA

- **Doctors Away should go to Somalia first.**
 - Bigger relative impact
 - Population is not that big, so it might be easier to contain the virus
 - Less access to sanitary conditions and worse quality health system, needing a lot of help
 - People are poorer than in Pakistan, probably will be harder for them to pay for a possible cure
- **Risks**
 - It's more expensive to keep the staff there, since we don't have a base nearby
 - It already has a lot of humanitarian help if compared to Pakistan
 - Bad sanitary conditions would make it hard to contain the pandemic
- **Next steps**
 - Search a partnership with Red Cross who is also active in the country and has similar values as our client to try minimizing costs
 - Invest in simple measures campaigns to try to achieve most of the population, to help contain the virus (wash hands, try avoid physical contact, etc)
 - Study the possibility of going to Pakistan next

SAMPLE RECOMMENDATION: PAKISTAN

- **Doctors Away should go to Pakistan first.**
 - Cheaper to maintain staff
 - Has points of action of the NGO nearby, giving possibility of synergy
 - Bigger access to sanitary conditions, so it is easier to work there when we think about daily based campaigns for the population (wash hands, try avoid physical contact, cover your mouth while sneezing, etc)
- **Risks**
 - Our impact is smaller
 - It has a better health system than Somalia and people have more money, which could mean they may do better without us than Somalia (since they have more chances of being able to buy a possible cure, for example)
- **Next steps**
 - Search for more volunteers to try to raise the impact of our NGO
 - Analyze possible synergies with our nearby points of action
 - Study the possibility of going to Somalia next
 - Search a partnership with Red Cross who is also active in the country and has similar values as our client to try minimizing costs

EXHIBIT 1

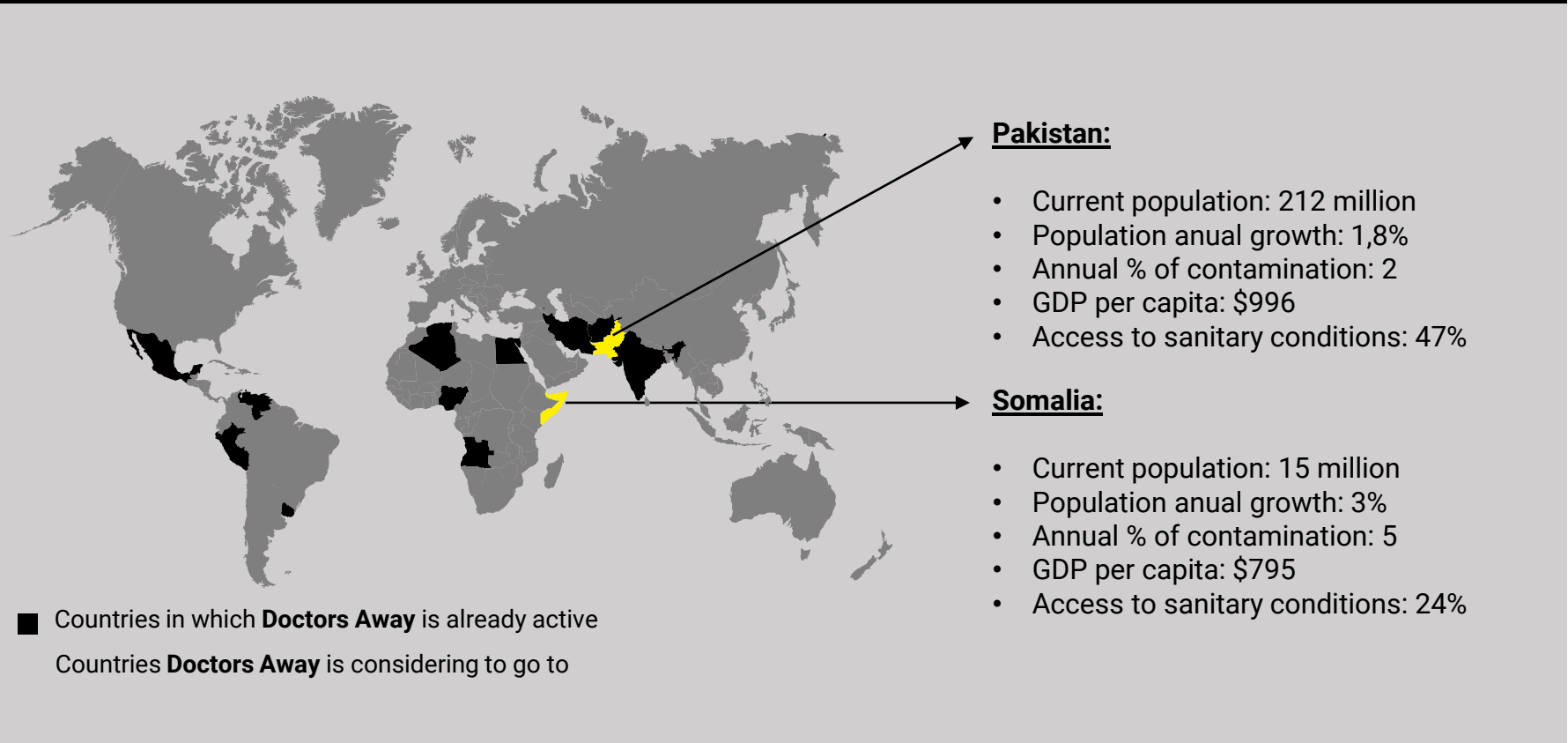
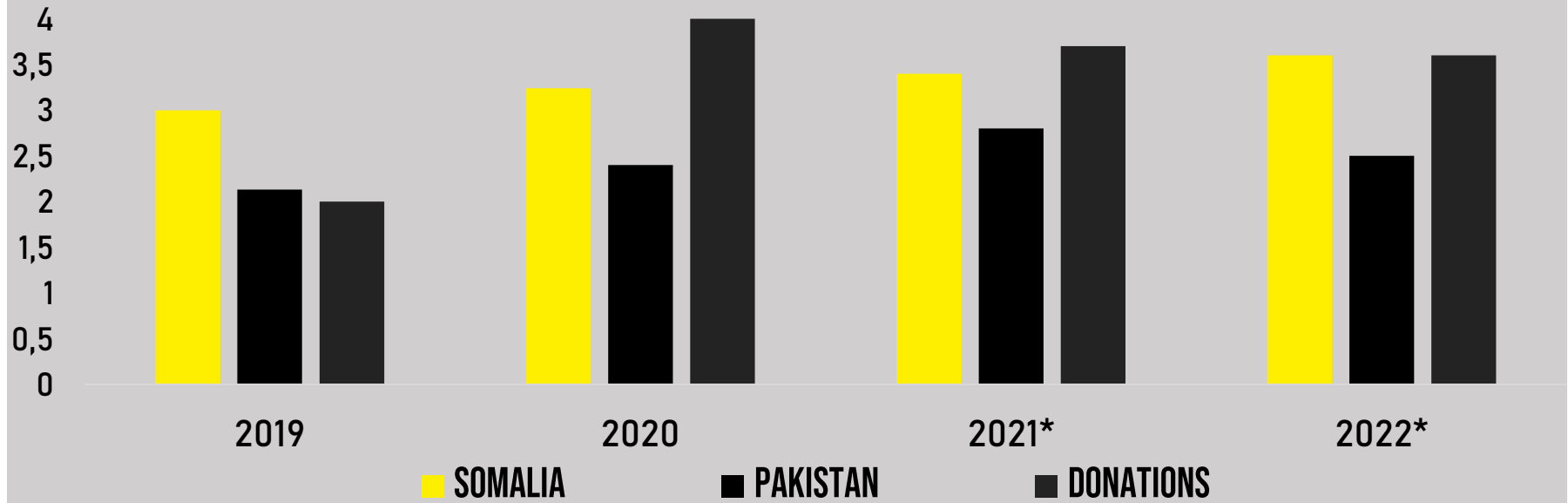
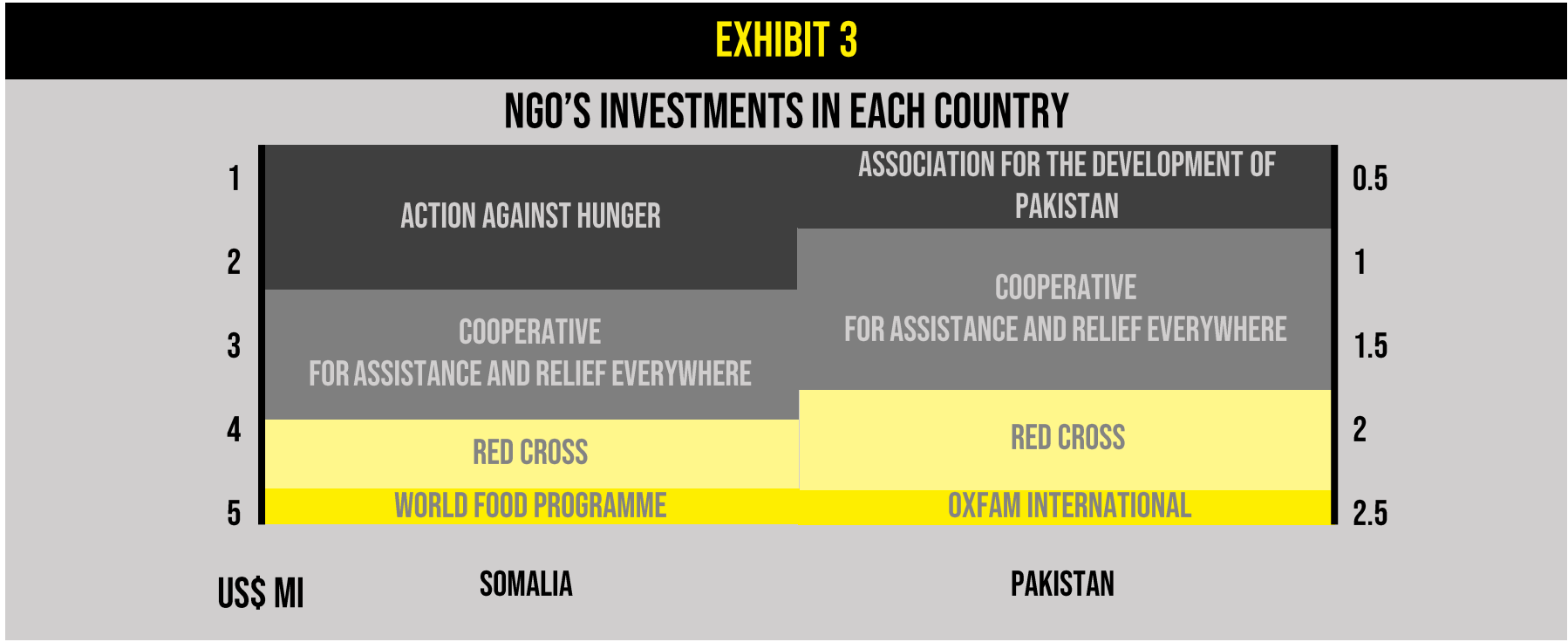


EXHIBIT 2

COSTS COMPARED TO THE DONATIONS AVAILABLE (MILLIONS US\$)







CASE 7: MUSIC IN RIO

Difficulty: Medium
Industry: Events

1

PROBLEM STATEMENT NARRATIVE

Music in Rio is a popular music festival that started in 1985 and brings Brazilian and international musicians to play in Rio de Janeiro. The manager of the event, Robert Nedima, is looking for partnerships and sponsors to Music in Rio 2019. He approached us to decide which proposals should they accept.

OVERVIEW FOR THE INTERVIEWER

In order to solve this case interview, graphic and quantitative analysis are required. In addition to that, the interviewee should address some qualitative issues (such as factors the audience values in an event and risk of variability of expected audience)

The candidate should understand the partner companies need to meet the financial needs of the event as well as to fulfill the public's wishes.

At first, the interviewer must guide the candidate to consider how to choose the companies addressing some factors the audience values. Besides that, the interviewee must realize there will be more than one company and the ideal is to choose only a few per sector. Those sectors will be: Food, Beverages and Others. All of them will require both quantitative and qualitative analysis. However, the "others" sector will not require any graphic interpretation.

Those graphics used in "food" and "beverages" analysis shows some competences and the value of them for the customer. After the analysis the candidate should only remain with three per sector and discard other companies.

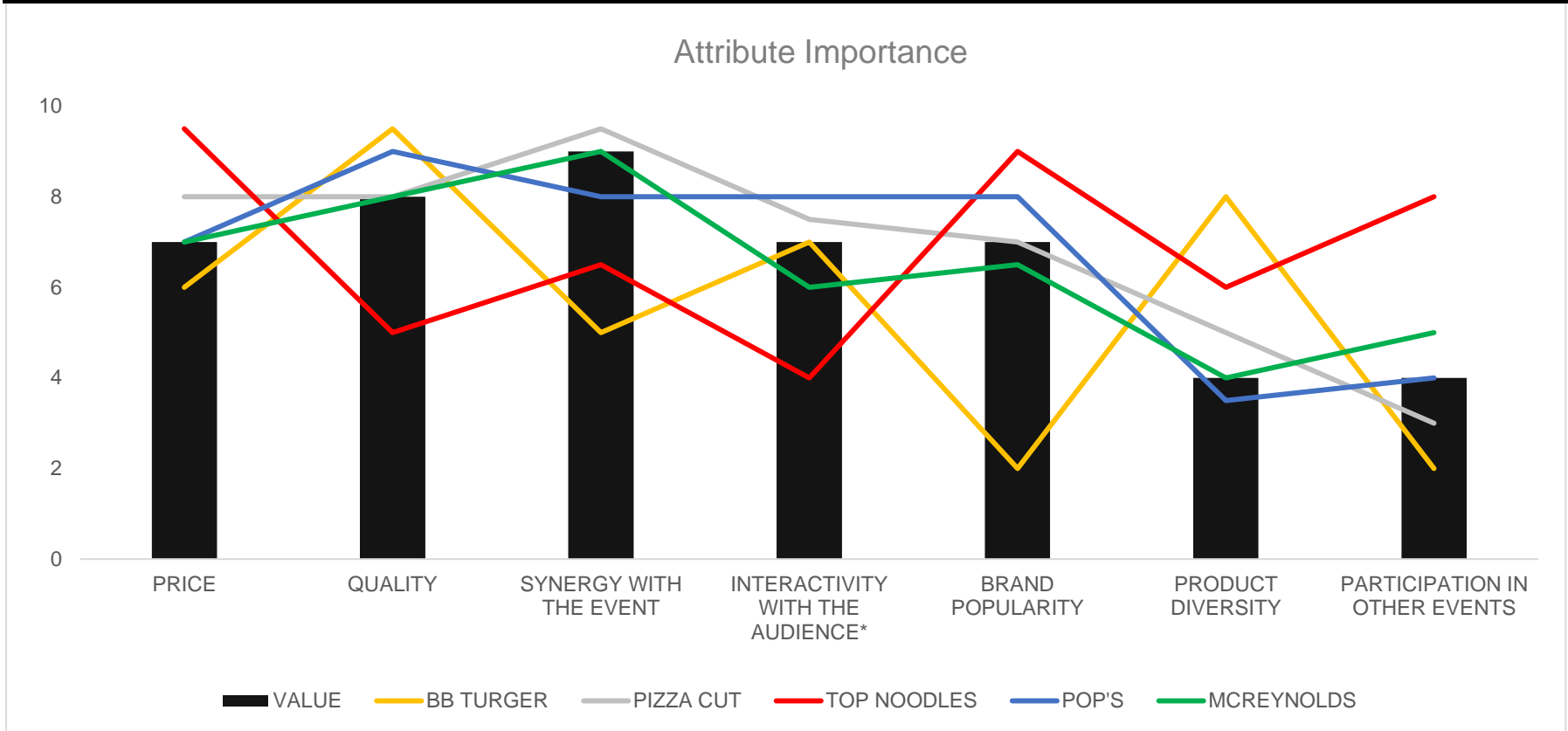
Then, the interviewer may lead the candidate to the quantitative analysis of the financial return. Each company will have a different type of contract: Fixed, Variable or Mixed. For the variable ones, the interviewer must guide the candidate to think how he will estimate the revenue of the stalls through the number of visitor of the event.

At the end, the candidate will be able to select the companies. There must be two for Food, one for Beverages and one for Others.

INFORMATION TO BE PROVIDED UPON REQUEST

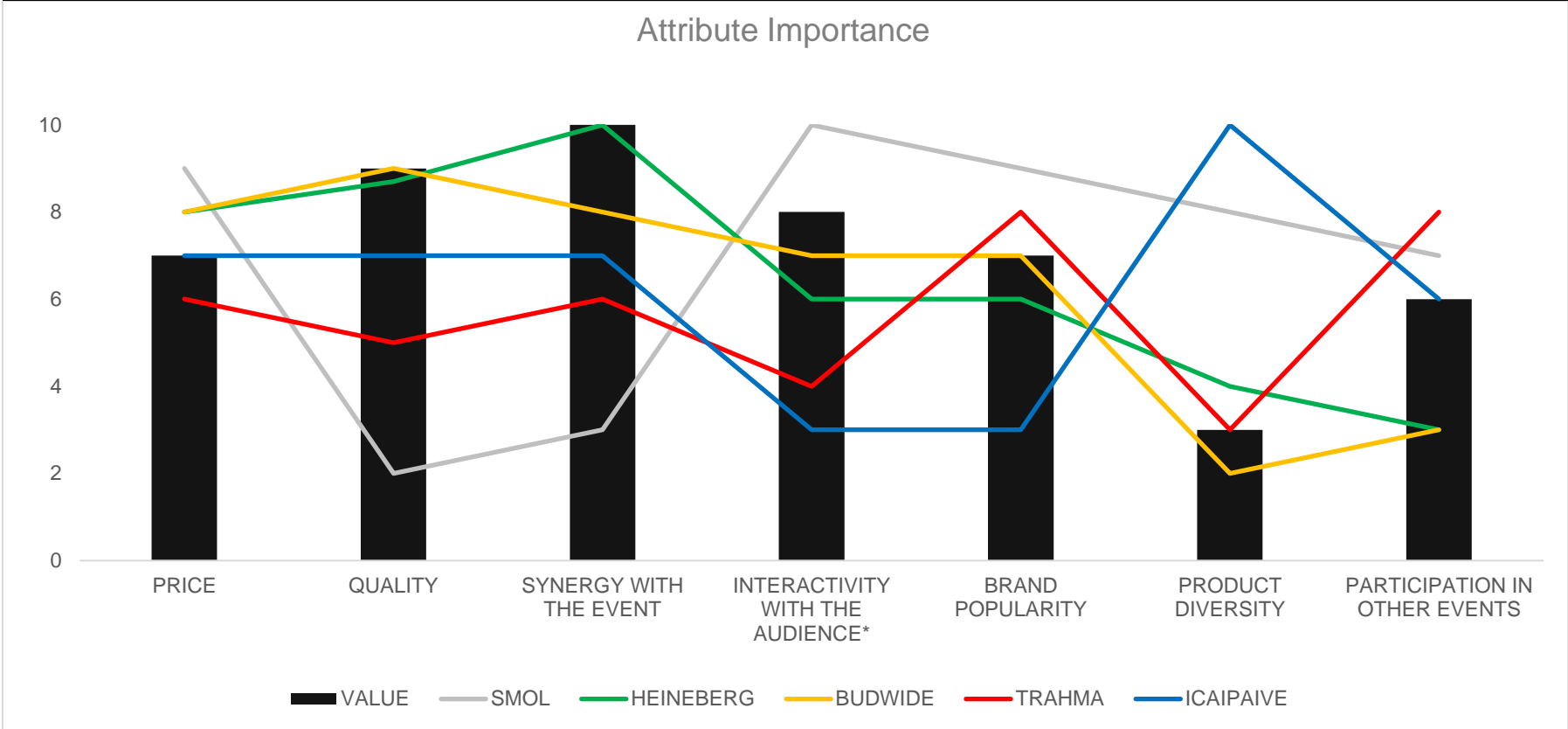
- The event has some partnerships and sponsors, but Robert wants us to decide which is the best option.
- The companies should be divided in three main groups: *Food*, *Beverage* and *Others*.
- Robert Nedima has already selected some companies from each sector for us to analyze:
- The *Food* sector has five companies: BB Turger, Pizza Cut, Top Noodles, Pop's and McReynolds. Pop's, McReynolds and Top Noodles are fast-food companies. The rest are regular food brands.
- The *Beverage* one has also five companies: Smol, Budwide, Heineberg, Trahma, Icaipaive.
- The *Others* sector has four: A bank, a diaper manufacturer, an Oil&Gas company and a Health Insurance company.
- Robert wants us to choose two companies from the *Food* sector, one from the *Beverages* and one from the *Others*.

EXHIBIT 1: FOOD SECTOR



*Interactivity with the audience may be understood as attractions that each company brings to the event (roller coaster, ferris wheel, ...)

EXHIBIT 2: BEVERAGE SECTOR



*Interactivity with the audience may be understood as attractions that each company brings to the event (roller coaster, ferris wheel, ...)

PART 1: QUALITATIVE ANALYSIS

Exhibit 1 (Food Sector):

BB Turger (Orange): Although is the best option when we see the “Interactivity with the audience”, it’s very weak at the rest.

Pizza Cut (Grey): It’s a good option. Is very consistent and has some strong points such as “Quality” and “Brand popularity”. An excellent interviewee will notice that the “Product diversity” is above the necessary and will propose something to deal with it, if the company is chosen.

Top Noodles (Red): As the first one, is very inconsistent. Doesn’t have any strengths, so it can be easily discarded.

Pop’s (Blue): Is another good option. Although is above the necessary in some points like “Quality”, “Interactivity with the audience” and “Brand popularity”, a good interviewee will notice that those topics can be easily modified in order to fit in the event. An excellent one will also show how it can be done.

McReynolds (Green): It’s also a good option. Has some important great points such as “Price”, “Quality” and “Synergy with the event”. Although it’s not that well at others like “Interactivity with the audience”, a good interviewee should notice that those can be improved in order to fit in the event.

The interviewee must realize that Pizza Cut, Pop’s and McReynolds are good options and she/he needs more information about each one to finish the case. The interviewer shouldn’t continue before this “insight”.

Exhibit 2 (Beverages Sector):

Smol (Grey): The interviewee must easily realize the this would be the worst option for the event as it doesn’t have any strengths.

Heineberg (Green): It’s a good option. It is very consistent and has a lot of synergy with the event, the most important point for the audience. An excellent interviewee should bring some ideas of how to improve the other topics.

Budwide (Orange): As the Heineberg, is very consistent and has some great points such as “Quality” and “Brand popularity”. Again, a good interviewee should notice it’s weaknesses and tell how she/he could deal with them.

Trahma (Red): Although being good at “Product diversity”, it is really bad in almost all the other points. It can be discarded.

Icaipaive (Blue): As Trahma, this company has some positive features such as “Participation in other events”, but it is not enough to compensate the other topics. It can also be discarded.

The interviewee must realize that Budwide and Heineberg are the best options, but she/he can’t decide which one is better only with this information. Again, the interviewer shouldn’t let the case continue before this “insight”.

PART 2: QUANTITATIVE ANALYSIS

Which other aspect of the partnership that you would you consider in order to choose which is the best company?

-The candidate should mention and recommend the financial analysis of the contractual terms
 -The interviewee should realize that companies pay to the festival in exchange for selling its products at the event and to have its brand announced.

There are three types of contract with the partner companies: A fixed-price contract; a based-on- sales contract, in which companies pay a percentage of their revenues at the festival’s area; and a mixed contract, in which companies pay a fixed tax to the event plus a percentage of revenues.

Food Sector:

In the food sector the festival’s organization is analyzing 3 offers, from Pizza Cut, Pop’s and McReynolds.

Pizza Cut is a regular food brand, Pop’s and McReynolds are fast-food brands.

Pizza Cut is offering a based-on-sales contract of 10%.

Pop’s is offering a mixed contract of \$200k plus 5% on sales.

McReynolds is also offering a mixed contract of \$260k plus 3% on revenue.

How could you estimate the revenue stalls will have?

Expected audience × average percentage of the visitor that eats that type of food × average ticket

How could you estimate the expected audience?

Maximum capacity × expected rate of attendance × days of the festival

Maximum capacity: 50k

Expected rate of attendance: 90%

Days of the festival: 6

Expected audience: $50k \times 90\% \times 6 = 270k$

Average percentage of the visitor that eats: 40% (fast-food) 30% (regular food)

Average ticket: \$25 (fast-food) \$40 (regular food)

Pizza Cut (regular food):

$270k \times 0,3 \times 40 \times 0,1 = \$324k$

Pop’s (fast-food)

$270k \times 0,4 \times 25 \times 0,05 + 200k = \$335k$

McReynolds (fast-food)

$270k \times 0,4 \times 25 \times 0,03 + 260k = \$341k$

The candidate should realize that, given the small difference between Pizza Cut and Pop’s, it is better to provide a wider variety of food and reach more clients than having 2 fast-food restaurants. Indeed there is a risk of cannibalization if Pop’s and McReynolds were elected. Therefore the candidate must choose Pizza Cut and McReynolds.

PART 2: QUANTITATIVE ANALYSIS

Beverages Sector:

Both companies have similar contracts:

Heineberg proposed a tax of 170k plus 20% of the revenue.

Budwide proposed 210k plus 15% of the revenue.

Expected audience: 270k

Average percentage of the visitor that drinks: 50%

Average ticket: \$8

Heineberg:

$$270k \times 0,5 \times 8 \times 0,20 + 170k = \text{\$386k}$$

Budwide:

$$270k \times 0,5 \times 8 \times 0,15 + 210k = \text{\$372k}$$

Given the similarity of the two brands, the candidate should only focus on which pays the best, which is the Heineberg.

If the candidate mentions the variation on the expected audience as an issue, apply the bonus question.

Others Sector:

Diaper manufacturer: 300k

Bank: 300k

Oil & Gas company: 250k

Health insurance company: 230k

The interviewee should consider the low similarity between the diaper manufacturer target consumers and the festival's visitors and choose the bank.

BONUS QUESTION

Depending on candidate's performance, the interviewer may ask this question in order to test mathematical skills.

How do you think that a variation in the expected audience can impact in the offers on the "beverages" sector?

Heineberg:

$$N \times 0,5 \times 8 \times 0,20 + 170k = 170k + 0,8N$$

Budwide:

$$N \times 0,5 \times 8 \times 0,15 + 210k = 210k + 0,6N$$

$$170K + 0,8N = 210K + 0,6N$$

$N = 200k \rightarrow \Delta = 70K = 26\%$ of variation in the expected audience.

The interviewee have to conclude that a 26% variation in expected audience might not represent a risk . Therefore, the organization is recommended to keep Heineberg partnership.

RECOMMENDATION

The event must contract the following companies:

Food: Pizza Cut and McReynolds.

Beverages: Heineberg.

Others: Bank company.

Interviewee must, briefly, bring arguments that support his/her decisions

RISKS

- Not selling enough tickets and, consequently, having revenues adversely affected with less people buying food/drink.
- Having a brand related to sponsor's and being subject to their actions, which may lead to negative reputation.
- Loss of autonomy in the products being offered.
- Lack of exit strategy. The companies can be jeopardized in case of contractual suspension, if there is not a planned way of doing that and available substitutes.
- Getting expansions and marketing limited due to contractual terms with the sponsors.
- The importance of values, target consumers, consumer's lifestyle be underestimated.

NEXT STEPS

- Contact the selected companies to start the partnership.
- Negotiate more interesting terms with the companies.
- Benchmarking with other events to see how the contracts are made.
- Analyze where are the best places in the event for each company to get installed.
- Search for another companies that might have better offers.
- Increase tougher clauses limiting sponsors actions and enabling breach of contract in case of terms being unfulfilled.
- Think about an exit plan in order make future sponsor changes smoother and less risky.



CASE 8: CLUBER'S MARKET SHARE

Difficulty: Medium

Industry: Private Car Transport

PROBLEM STATEMENT NARRATIVE

- Your cliente, AutoCo, is a multinational vehicle assembler. They have just bought Cluber, a platform that offers rides in private vehicles. It’s been the market leader since it came to Brazil, but its Market Share has been dropping significantly within the past few years. AutoCo’s CEO has reached you to find out how to turn the situation around and regain the lost Market Share.

CLARIFYING ANSWERS

- The market has been stable in recent years.
- Disregard inflation, market growth or any rate of change over the years.
- There has been no new entrants in the market in recent years.
- Its main competitor is 101 Rides.

OVERVIEW FOR INTERVIEWER

- The first step is to identify how much Market Share has been lost, in recent years, and realize that its main cause is its main competitor (101 Rides) Market Share growth. Guide the candidate to market share and customers analysis.
- The second step is to identify the reasons for the lost of Market Share to 101 Rides: Cluber does not value price as much as its competitor, while consumers prefer cheaper races.
- The third and final step is to calculate how much the price could be reduced to regain market share and calculate the impact of that change on the company's results.

ANALYSIS 1

- Quantify the Market Share loss

ANALYSIS 2

- Identify the cause of Market Share loss for 101 Rides

CALCULATIONS/ QUESTIONS

- As there was no market growth, the candidate must raise assumptions that either a strong new entrant emerged, or some competitor stole Cluber's Market Share. **Show Exhibit 1** for the candidate.
- The candidate should realize that the reduction of Cluber's Market Share in the period reported in the chart was something about 18%.
- In addition, the applicant needs to report that the reason for the loss was due to its main competitor's growth, since other competitors didn't have significant growth.

CALCULATIONS/ QUESTIONS

- Ask the candidate to raise some hypotheses for the cause of losing Market Share to 101 Rides. After he comes up with some options, **show Exhibit 2**.
- The candidate should soon realize that Cluber does not value pricing (it charges higher prices) as much as the consumer, while 101 Rides values the price very much (charging lower prices).
- A more advanced candidate can also highlight the Service Features bar, realizing that Cluber invests heavily in this, although it is not as important to the consumer, and raise the possibility of a cost reduction in this aspect.

ANALYSIS 3

- Price reduction: Identify the feasible limit.

CALCULATIONS/ QUESTIONS

- The candidate must choose to analyze the price. Ask him to list Cluber's price possible components and how customers react to changes.
- **Show exhibit 3**, the candidate should conclude that a discount on the price will result in an increase in number of rides. If necessary, the curve equation is $Y = 0.0625 * X ^ 2$.
- Tell the candidate that the client does not want the revenue to be reduced, even with a possible price reduction.
- The applicant must find the discount amount (20%) corresponding to the required 25% increase in Market share. The candidate should check the change in revenue. Help the candidate formulate the equation:

$$\text{Revenue}(R_0) = \text{Price}(P) * \text{Number of rides}(N)$$

$$R' = 0,8 \times P \times 1,25 \times N = R_0$$

$$1,25 \times 0,8 = 1$$

- Ask why the candidate would not give a discount higher than 20% and increase market share even more.
- Note that making as few discounts as possible to reach the goal is interesting because problems can be generated for the company due to increased demand without increasing revenue and keeping the cost fixed. Using the revenue formula you can see that increasing the discount does not result in a significant increase in revenue. Nevertheless, a 40% increase in rides would result in a market share higher than 100%, which is impossible.

QUESTIONS

At this point, how much would be the suggested discount? How can that change affect your client?

ANALYSIS 4

- The candidate must show that increasing the operation while maintaining revenue will cause costs to jeopardize profits.
- Ask what the impact on values will be.

CALCULATIONS/ QUESTIONS

- Revenue: $15 \times 36M \times 0,25 = \underline{\mathbf{R\$135M}}$
 - Current average ticket = R\$15
 - Current Cluber’s N° of races = 72% of 50M/year = **R\$36M**
 - Clubers fee = 25%
- An inattentive candidate tends to calculate the revenue considering changes, however, this isn’t necessary since the revenue does not change with a discount of 20%
- $R' = 0,8 * P * 1,25 * N = R0$

CALCULATIONS/ QUESTIONS

- Costs:
 - Fixed: R\$30M
 - Variable: average of R\$2 per ride
 - Current total costs: $R\$2 \times 36M = R\$72M + R\$30M = \underline{\mathbf{R\$102M}}$
 - Projected total costs: $R\$2 \times 45M = R\$90M + R\$30M = \underline{\mathbf{R\$120M}}$
 - Profit comparisons: - **54,5%** = - **R\$18M**
 - Current = $135M - 102M = \underline{\mathbf{R\$33M}}$
 - Projected = $135M - 120M = \underline{\mathbf{R\$15M}}$
- Current margin : **24,4%**
 Projected margin:
11,1%

BONUS

- Are there other problems that need to be solved due to change?
- Looking at the value curve the candidate should realize that by increasing the number of races, the availability of drivers will not be enough.
- Ask the candidate to list ways to attract more drivers
 - Marketing
 - Training
 - Partnership with the automaker itself
 - Bonus Policy
 - Safety Policy

CONCLUSION/RECOMMENDATION

- The company should reduce its average price by 20% as it will result in a 25% increase in the number of customers, ie a total recovery of the Market share lost over the last few years while keeping revenue unchanged.
- The main reason for this is that CCluber has been operating with an abusive profit margin (monopoly) and should reduce from 24% to approximately 11%, otherwise it will continue to lose Market share to 101 rides.

NEXT STEPS

- Implement a pricing policy in a planned but bold and intense way.
- Implement any suggested policy from bonus question.
- Add a new premium service, with higher margin.

RISKS

- The value curve may be false.
- The number of rides curve in relation to the discount is wrong.
- The competitor also change its positioning and operate with even lower prices.
- Drivers might not like the new price policy.

EXHIBIT 1

CCLUBER’S AND 101 RIDES’S MARKET SHARE

TOTAL MARKET SIZE: 50M

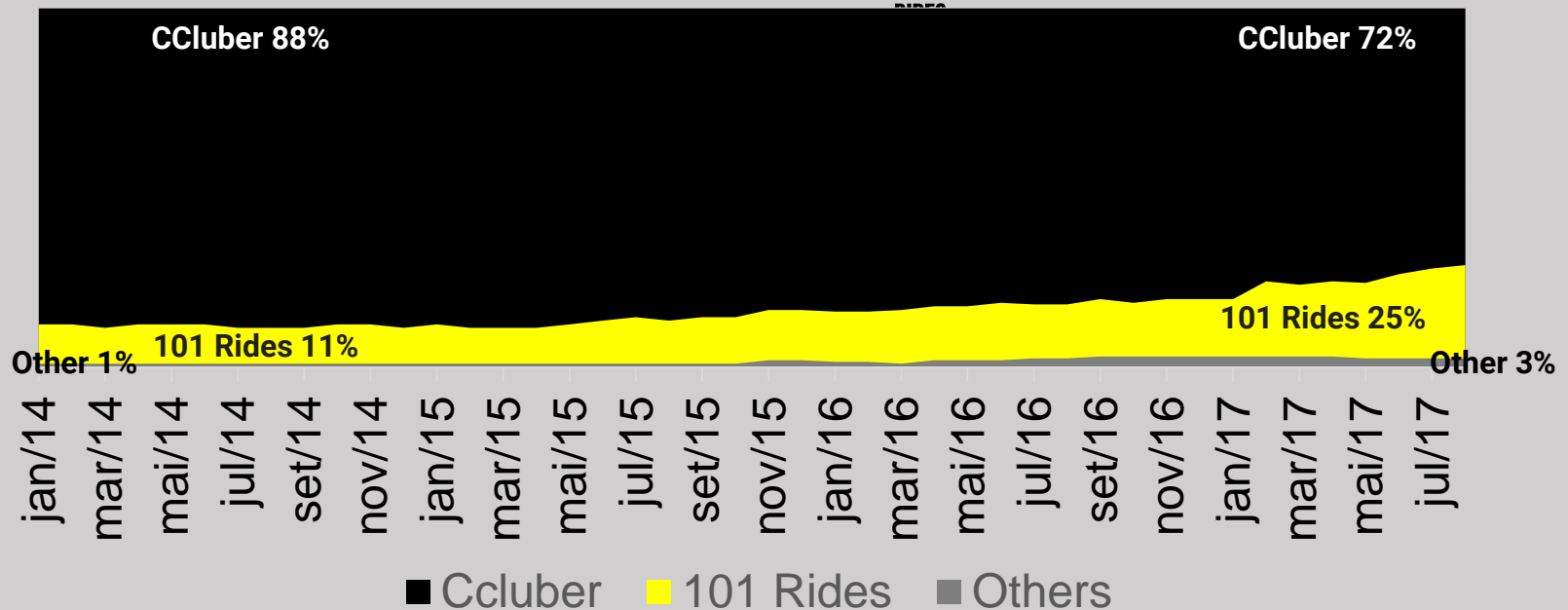


EXHIBIT 2

CLUBER'S AND 101 RIDES'S VALUES COMPARED TO CUSTOMER PREFERENCE

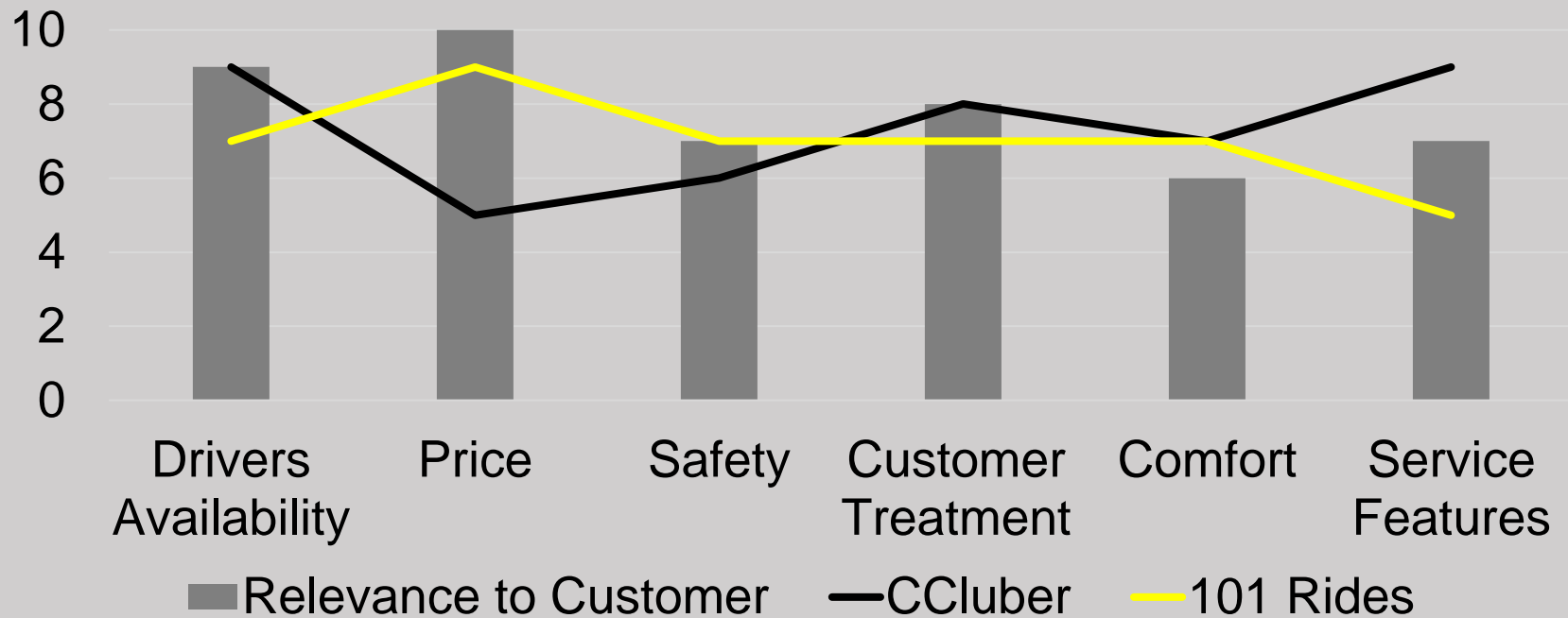
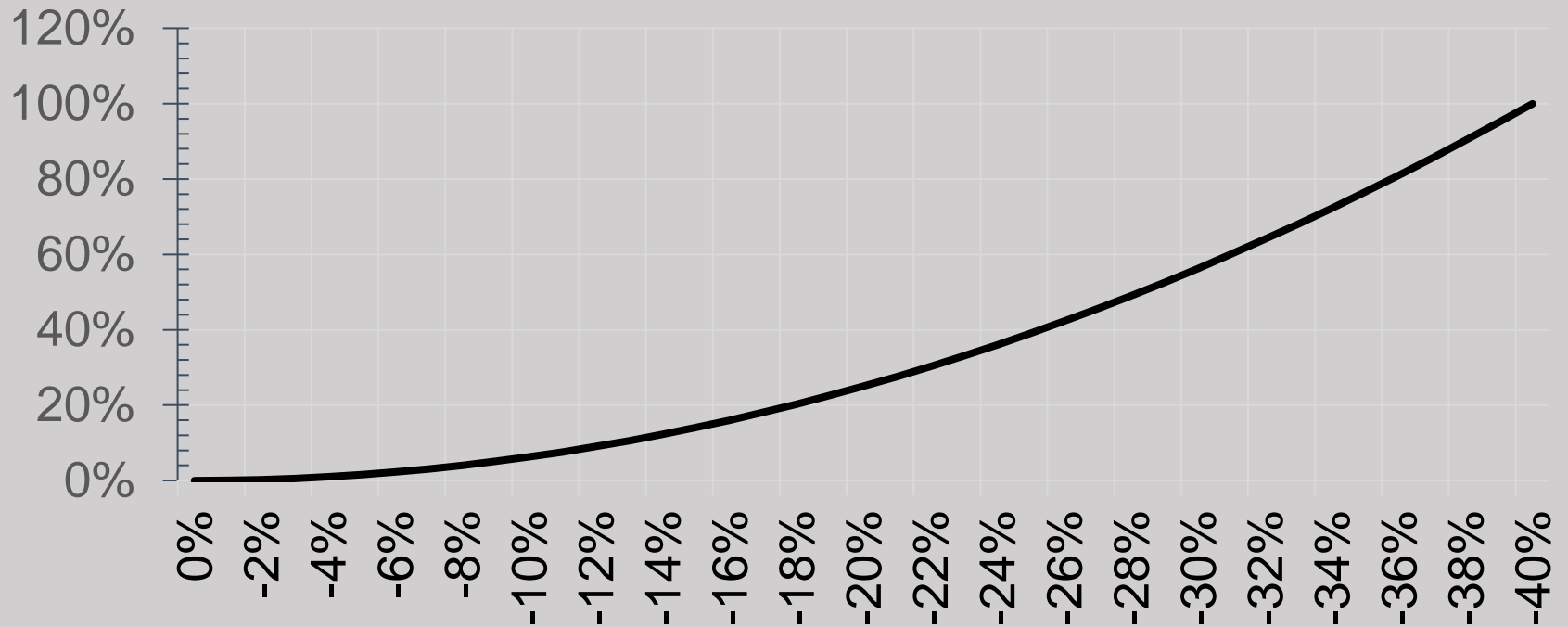


EXHIBIT 3

RIDES INCREASE X DISCOUNT





CASE 9: RENTAL CARS

Difficulty: Medium
Industry: Car Rental

PROBLEM STATEMENT NARRATIVE

Our client is an entrepreneur who wants to start an innovative company in the car rental business. Basically it is a marketplace that connects people who want to rent a car with those who have a car and will not use them for a certain period of time. Our customer wants to know which car categories the company should accept in her business and in which region of the state she should open the parking lot.

THE PURPOSE TO CHECK

- Our client will be the connection between a person who will not be using his car for a certain period and wants to put it on rent and a person who is looking for a car. She will earn money with the difference in value between what she will receive for the rent and the payment she will make to the car owner.
- The parking lot will be used for inspections and cleanings that will occur before the delivery and after the return of the car, which have the purpose of checking if the car returned in the same conditions as it was given.
- She intends to open the parking lot in the state of Rio de Janeiro.
- Among the 5 possible categories that the client can work with, she wants to work only with 3 of them, due to capacity.
- This type of rental doesn't exist in the state, so it doesn't have a direct competitor. However, it has 4 competitors in the normal car rental category.
- Due to the lack of direct competitors, our client believes that she will be able to make her business profitable by the low amount paid to car owners, as they wouldn't have any other option of service like hers.

1. WHICH CAR CATEGORIES SHOULD BE ACCEPTED (PART 1)

INFORMATION TO BE PROVIDED UPON REQUEST

- The 5 car categories are: popular, compact, sports, 4x4 and minivan.

GUIDANCE FOR THE INTERVIEWER

- The candidate must think about the **cost, sales price** and **demand** of each category. Also, the candidate must think about which categories are the **most likely to please potential customers**.
- Before telling those variables, you must induce the candidate to think about the **performance of each car category in criteria** and the **importance of each criterion to potential customers**. When he asks about it, **show exhibit 1**.
- If the candidate doesn't initially think about the characteristics of each category and wants to calculate the profit, you must say "Interesting, but we can leave it for later. Do you see any qualitative variables that are important to be analyzed before?".

INSIGHTS OF EXHIBIT 1

- Analyzing the exhibit, it is possible to notice that the **popular** and **sports** category are more advantageous than the others.
- To decide which would be the third category that the client should work with, the candidate must analyze the **profitability**.

1. WHICH CAR CATEGORIES SHOULD BE ACCEPTED (PART 2)

GUIDANCE FOR THE INTERVIEWER

- Now that the candidate already has an idea of which categories should be discarded by the client, he must confirm with the calculations of the profit for each category.
- To calculate **revenue**, he must ask about the average rental ticket, for each category.
- To calculate the **cost**, he must ask about the average rental cost, for each category.
- If the candidate does not think about these 2 variables, you should induce him to think about it.

INFORMATION TO BE PROVIDED UPON REQUEST

- Popular: Average Ticket per car: \$50.00 / day
Cost per car: \$5.00 / day
- Compact: Average Ticket per car: \$40.00 / day
Cost per car: \$5.00 / day
- Sport: Average Ticket per car: \$45.00 / day
Cost per car: \$8.00 / day
- 4x4: Average Ticket per car: \$60.00 / day
Cost per car: \$10.00 / day
- Minivan: Average Ticket per car: \$100.00 / day
Cost per car: \$5.00 / day

*The average tickets and costs are related to the daily rental of each car, so, to calculate the annual profit, it is necessary to have information about the demand.

1. WHICH CAR CATEGORIES SHOULD BE ACCEPTED (PART 2)

PROFIT ANALYSIS

- Popular: Profit / daily: $50 - 5 = \$ 45.00$
- Compact: Profit / daily: $40 - 5 = \$ 35.00$
- Sport: Profit / daily: $45 - 8 = \$ 37.00$
- 4x4: Profit / daily: $60 - 10 = \$ 50.00$
- Minivan: Profit / daily: $100 - 5 = \$ 95.00$

CONCLUSIONS

- The calculation of the respective daily profit for each category is still not enough to determine which are the most advantageous categories for the client to work. It is still necessary to analyze the **demand**.

GUIDANCE FOR THE INTERVIEWER

- If the candidate doesn't reach the same result, inform that some calculation was wrong and ask him to validate them with you.
- If the candidate does not think about demand, you must induce him. When he asks, **show exhibit 3**.
- To finish calculating the annual profitability of the categories and answer the client's first question, the candidate must also analyze the location.
- If the candidate asks for more information about the locations, **show exhibit 4**.
- If the candidate analyzes the exhibit 4 and asks for more information about the competitors, **show exhibit 2**.
- The ideal is that after analyzing exhibit 4 and 2, the candidate comes to the conclusion that the location P3 is the most advantageous, avoiding making some unnecessary calculations. Thus, the candidate will only need to calculate the annual profit of the categories in P3.
- In exhibit 3, if the candidate asks about the purchase price, inform that the client is willing to pay any amount, so it does not influence in the calculations.

1. WHICH CAR CATEGORIES SHOULD BE ACCEPTED (PART 2)

ANNUAL PROFIT ANALYSIS

Calculation of annual profit by category in the location P3:

- Popular: Profit / daily: \$ 45.00
Expected daily: 1400
 $45.00 \times 1400 = \$63,000$
- Compact: Profit / daily: \$ 35.00
Expected daily: 500
 $35.00 \times 500 = \$17,500$
- Sport: Profit / daily: \$ 37.00
Expected daily: 600
 $37.00 \times 1400 = \$22,200$
- 4x4: Profit / daily: \$ 50.00
Expected daily: 400
 $50.00 \times 400 = \$20,000$
- Minivan: Profit / daily: \$ 95.00
Expected daily: 200
 $95.00 \times 200 = \$19,000$

CONCLUSIONS OF EXHIBIT 3

- The candidate has two possibilities: calculate the annual profit by category for each of the 4 locations (longest path) or ask for the location of the possible parking lots. If he asks, after analyzing exhibit 4, he will realize that P3 is the ideal place, and therefore, he only needs to calculate the annual profit of the categories in P3.
- Regardless of the way he takes, he will come to the conclusion that the **popular**, **sport** and **4x4** categories are more advantageous ones.

2. IN WHICH REGION THE PARKING LOT SHOULD BE OPENED (PART 1)

GUIDANCE FOR THE INTERVIEWER

- The candidate must think about the following criteria: distance from competitors (and the percentage of market share each one has) and the crime rate of possible locations that are available for rent.
- If the candidate doesn't think of one of these 3 variables, you must induce him to that reasoning. You can ask the candidate "Do you see any other possible metrics for analyzing the ideal location?".
- When the candidate asks for the market share, you must **show exhibit 2**.
- After showing the chart, ask what insight he was able to extract and induce him to comment on which competitors the client should be more careful about.

INSIGHTS OF EXHIBIT 2

- Competitor 1 is declining and has the smallest share of the market.
- Competitor 2 is growing rapidly and is currently the second to retain the biggest market share.
- Competitor 3 has remained stable over the years and currently holds most of the market.
- Competitor 4 has remained stable over the years and is currently the second that retains the smallest share of the market.

CONCLUSIONS

- Competitor's threat order (our client must keep distance):
Competitor 2 > Competitor 3 > Competitor 4 > Competitor 1

2. IN WHICH REGION TO OPEN THE PARKING LOT (PART 2)

GUIDANCE FOR THE INTERVIEWER

- Now, the candidate needs to think about analyzing the **crime rate**, the **places available for the opening of the parking lot** and the **location of the competitors**. If he is having difficulty, you should induce him to that reasoning.
- If the candidate asks about the locations available for the opening of the parking lot, the location/radius of the competitor's performance or the crime rate, you must **show exhibit 4**.
- After showing the chart, ask what insight he was able to extract. If he doesn't interpret the right insights, guide him to the right path.

CONCLUSIONS

- The client must choose location number 3.

INSIGHTS ON EXHIBIT 3

- Location 1 (P1) is placed on an area with a low crime rate, and close to competitor 2 (which has a small range of operations, but is the strongest), so this location is disadvantageous.
- Location 2 (P2) is placed on an area with a low crime rate, and close to competitor 1 (which is the weakest, but has a wide range of operations), and competitor 2 (which has a small range of operations, but is the strongest), so this location is disadvantageous.
- **Location 3 (P3)** is placed on an area with a low crime rate, and close to competitor 4 (which is the second weakest and has a medium range of operations), so this location is **advantageous**.
- Location 4 (P4) is placed on an area with a high crime rate, and close to competitor 3 (which is the second strongest and has a medium range of operations), so this location is disadvantageous.

SAMPLE RECOMMENDATION

- Our client must choose to work with the **popular, sport** and **4x4** categories, since they are the most profitable and with the best performance according to the criteria of the possible clients.
- In addition, our client must open the parking lot at location **P3**, as it has a low crime rate and is only close to competitor 4, which is the second smallest in the market and has a small operating radius.

RISKS

- Some estimates provided throughout the case that aren't 100% accurate.
- Crime growth in the indicated region.
- Other competitors appear in this rental business, which was initially innovative.
- Growth of some competitor.

NEXT STEPS

- Analyze the projection of crime in the coming years, to make sure that the chosen location is the ideal one.
- Invest in publicity and advertising, to attract customers who want to rent and customers who want to put the car for rent.
- Invest in a platform like website or app to be the “catalog” of available cars.
- Analyze the possibility of offering more services in the parking lot, such as cleaning and repairing cars, selling or a convenience store, to generate a higher profit on the rented space.
- Analyze ways to prevent competitors from entering the customer's innovative market.
- Network effect, seek alternatives to attract customers.

EXHIBIT 1

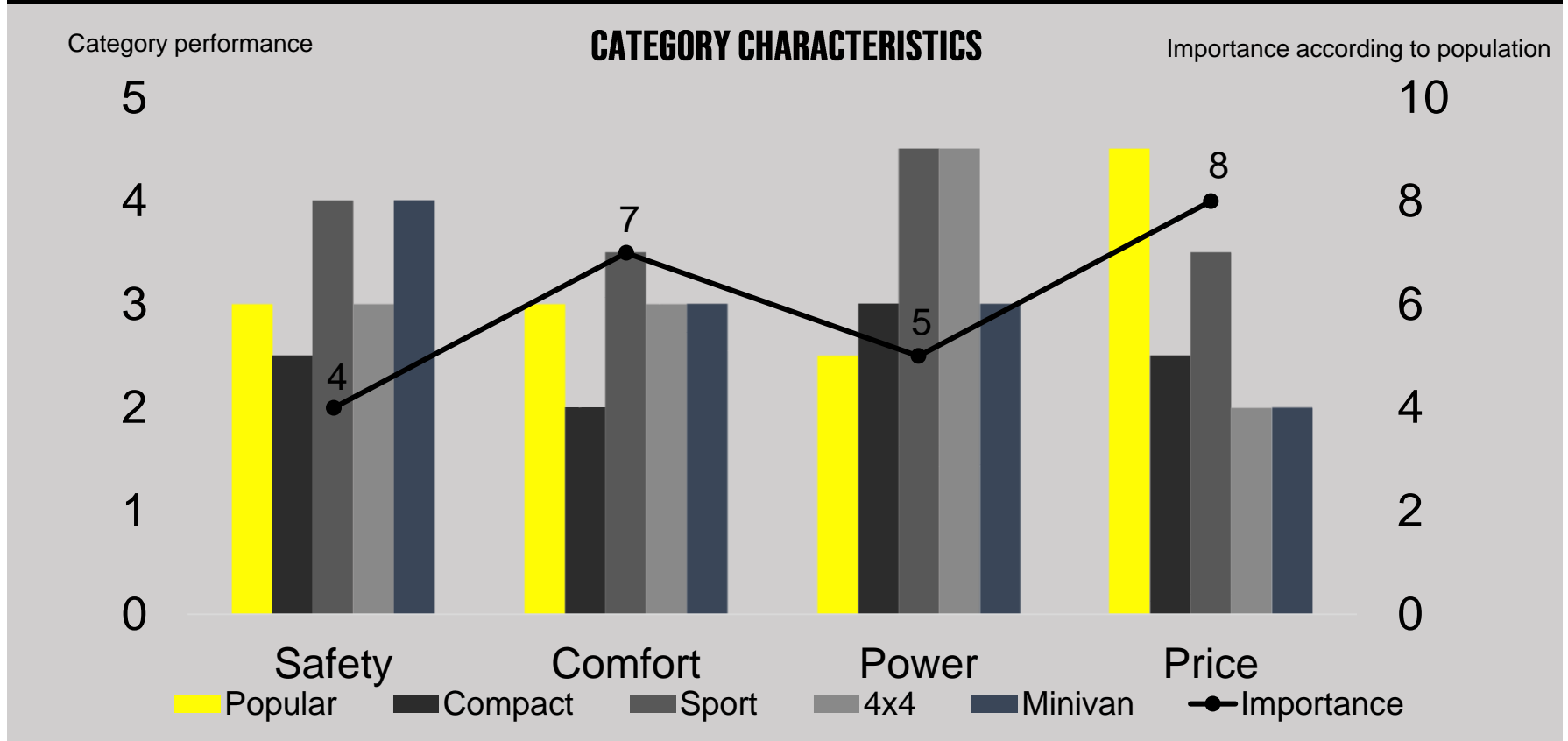


EXHIBIT 2

CATEGORIES ANALYSIS BY LOCATIONS

Possible locations	P1					P2				
Categories	Popular	Compact	Sport	4X4	Minivan	Popular	Compact	Sport	4X4	Minivan
Expected demand (daily)	1,000	600	500	300	300	800	500	230	800	120
Location purchase price	\$2,500.00					\$1,000.00				

Possible locations	P3					P4				
Categories	Popular	Compact	Sport	4X4	Minivan	Popular	Compact	Sport	4X4	Minivan
Expected demand (daily)	1,400	500	600	400	200	200	700	100	500	100
Location purchase price	\$1,500.00					\$2,000.00				

EXHIBIT 3

LOCATION ANALYSIS

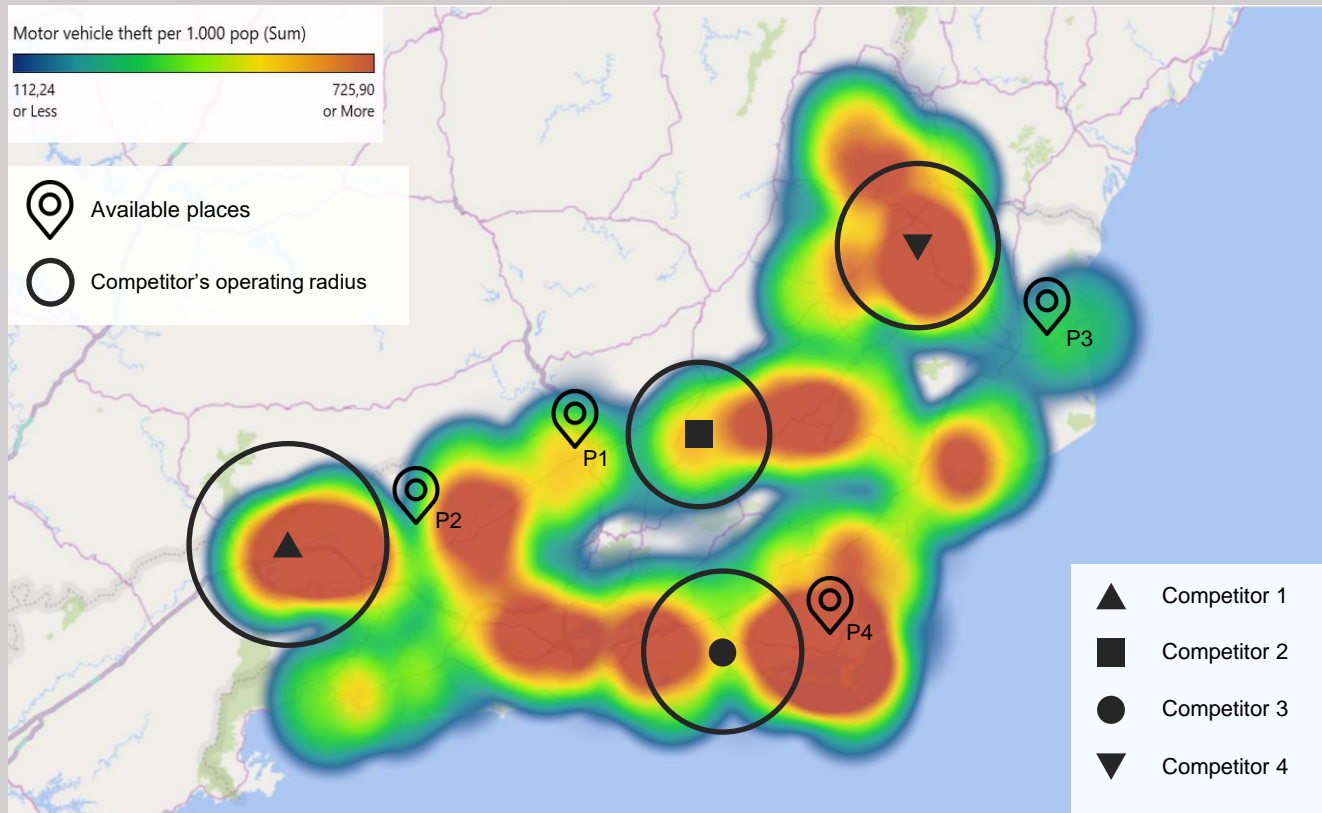
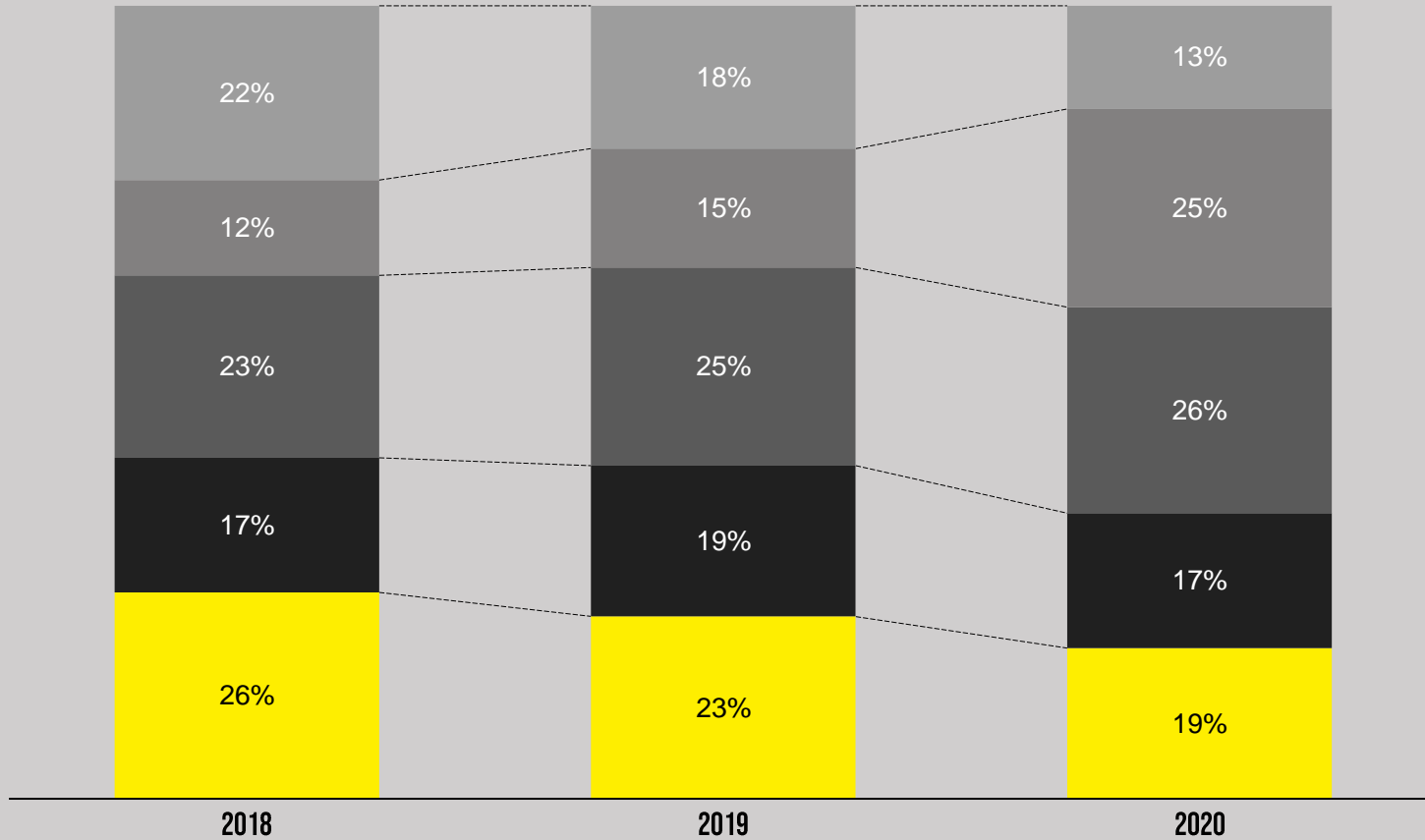


EXHIBIT 4

MARKET SHARE





CASE 10: CURE CO.

Difficulty: Medium

Industry: Pharmaceutical

PROBLEM STATEMENT NARRATIVE

Your client is a pharmaceutical company called Cure Co. They produce and sell medicine for the mitigation of symptoms of a rare autoimmune disease. This disease had no known treatment until recently, when the company's Research and Development department discovered it. Your client is thinking about starting its production and sales. They want to understand if they should do so or not.

INFORMATION TO BE PROVIDED UPON REQUEST

- Cure Co. currently doesn't have the capability of producing both the treatment requirements and the medicine at the same time.
- There is **no investment** to be made as the production of the treatment's assets will use the same chain that's already used by the company for the medicine.
- Cure Co.'s current **market share is 80%**, as they can produce the medicine at much lower costs than their competitors. On a short to medium-term, no other company could equal its production to theirs.
- Cure Co. sells its medicine **globally**.
- The disease is deadly. If its symptoms aren't treated, the patient dies in a very short period of time. If treated, the patient inevitably dies after around **5 years**.
- The cure currently has not been publicly announced and has **no current patent**, but Cure Co. can manage to obtain it.
- Company sells the medicine **directly to end consumers**. This operation represents **30% of Cure Co.'s total profit**.
- There are **four other competitors** in this market.

GUIDANCE FOR INTERVIEWER

- **This is an interviewer-led case.**
- This case should primarily incite an ethic duality to the candidate: sell the treatment and have a great portion of people die faster and suffer from the aggravation of symptoms because of the treatment's much higher price, or have people dying anyways at the end of five years, not being able to save any of them.
- A good candidate will try to explore the introduction of the case as much as possible.
- **While in this introduction, let the candidate ask questions and make his/hers own structure. After the candidate finishes structuring, the interviewer may proceed to the next part.**
- A good structure will include profitability for both the medicine and the cure, competitors and consumers.

PART 1: PROFITABILITY

GUIDANCE FOR THE INTERVIEWER

- Ask the candidate about what they would like to analyse first. Let them expose ideas, then say the following:
To start understanding the problem, the CEO thinks it is a good idea to calculate the medicine’s and the treatment’s profitability. What data do you think is needed to do so?
- If they don’t come up with everything they would need, give them what they asked for, then give hints to the other information they didn’t think of.
- If the candidate only calculates cure’s profits for year 0, ask them if that would be equal to yearly profits and why. It wouldn’t and they should realize that.
- A good candidate should realize that the **treatment shouldn’t be accessible to all of the consumer base**. If they do so, **ask them if they can think of ways of amplifying the consumer base and still profit**. Primary ones are lowering costs and using a competitor’s production’s infrastructure. **If they don’t**, ask them how they think these high prices would impact the people affected by this disease as a whole, and brainstorm ideas with them. **When asked lowering prices proceed to the analysis in the corresponding slides. It is important to follow the case’s order** so if the candidate brings up M&A before prices, tell them that it is a good idea, but that they can analyse that afterwards and keep guiding them to lowering prices.

CALCULATIONS

- Medicine’s profitability

Number of sick people per year * Market Share * profit per box * months

$$50 \text{ M} * 80\% * \text{US\$ } 20 * 12 = \text{US\$ } 9,6 \text{ billion/year}$$

- Treatment’s profitability (no prices lowered)

Number of people that would buy the cure per year * profit per unit of cure

$$4 \text{ Mi} * \text{US\$ } 2400 = \text{US\$ } 9,6 \text{ billion/year}$$

$$\text{US\$ } 9,6 \text{ Bi} * 5 = \text{US\$ } 48 \text{ Bi (year 0)}$$

INFORMATION TO BE PROVIDED UPON REQUEST

- Medicine is sold in boxes. Each one lasts **1 month**.
- Current demand is **50 million** people from all over the world. Cure Co.’s market share is **80%** of the total demand.
- Every year there are **10 million new cases** of the disease.
- **Medicine’s price** is US\$ 30/box.
- **Medicine’s cost** is US\$ 10/box.
- **Treatment’s price** is US\$ 2900 (for the full treatment).
- **Treatment’s cost** is US\$ 500.
- When asked about **demand for the treatment** show **Exhibit 1**.

PART 2: LOWERING PRICES

GUIDANCE FOR THE INTERVIEWER

A way that the company has considered for compensating for the number of people that would lose access to treatment is lowering prices. (Show Exhibit 2)

- A good candidate, analyzing **Exhibit 2**, should try to maximize the access of our consumers to the treatment, while still trying to maximize our client's gain. Still there is no right answer, as long as the candidate justifies it well.
- Interviewee **does not need and shouldn't calculate profit** for each price.
- A great candidate would realize that, because of lowering its prices, there could be possible benefits for the company.

POSSIBLE FOLLOW UP QUESTIONS

- What do you think should be the company's goals for pricing the treatment? **(If the candidate still doesn't have clear goals in mind).**
- Do you think there could be any benefits for the company by lowering its prices besides saving more people?
- How do you think lowering prices by this much would impact Cure Co.? **(If the candidate proposes a much lower price than originally stated).**

INFORMATION TO BE PROVIDED UPON REQUEST

- If the candidate realizes the benefit that the company could have for lowering prices, feel free to tell that by doing so the market would increase expenditures with Cure Co., resulting in US\$ 4 billion extra in profits per year.
- Costs remain the same.

PART 3: ACQUISITION

GUIDANCE FOR THE INTERVIEWER

Now that we know that even by lowering the prices we wouldn't be able to save everyone. Is there another way? Do you think there is a way of using the competitors?

- If candidate brings up an acquisition as way of compensating for the number of people that would lose access to treatment, show them **Exhibit 3**. If they don't bring it up, guide them to do so.

-The candidate should notice **that those are the four other companies that supply the market and that they are already using all their supply capability to meet market demand.**

-The interviewee should ask for **potential synergies** between those companies and the client. If so, ask them what types of synergies would be possible. After, tell them the client believes it can boost company productions by **20%**.

This means that the maximum number of additional people that could get access to treatment is 2 million, which is still not enough to supply all the patients the client would stop serving. Ask the candidate which company (or companies), if any, they think the client should buy.

There is no right answer here. The candidate should analyze the trade-offs between treating more people and profit.

POSSIBLE FOLLOW UP QUESTIONS

- What other components should we consider when talking about an acquisition?
- Should the client buy more than one company? What are the possible risks of this decision?
- What do you think about the prices of the companies when we look at our client's yearly profits? (Prices, when compared to our client's yearly profits, are minimum).
- And when we think about the profit we would get from this? (assume same profit per unit of treatment as the company has now).
 - Candidate should think about **calculating payback** – Price / (supply capability x 1,2 x 20 x 12). **They don't need to do this. Numbers are here to help the interviewer if candidate decides to do so.**
 - Med Co. – 5,6 years
 - Health Co. – 13 years
 - Care Co. – 14 years
 - Pharma Co. – 9,7 years
- Do you think we necessarily have to buy one of them to gain the same benefits?
- Should we analyze other types of companies?

INSIGHTS THAT A GREAT INTERVIEWEE SHOULD HAVE

Depending on the types of synergies (if they are based on shared know-how, for example), the client doesn't need to acquire the whole company. A joint venture or selling of company's technology with royalties on production would be enough to solve most of the supply capability problems and also be more financially attractive.

SAMPLE RECOMMENDATIONS

1. Client should start selling the treatment, but by a lower price:
 - **Even though profits would be lower, company's public image wouldn't be so affected.**
 - **Company should also go after an M&A.**
2. Client shouldn't start selling the treatment:
 - **It would affect profit (either by affecting public image or by the strategies we would have to take to avoid this).**
 - **There is no financially attractive way to supply all of our current clients and keep profit.**

RISKS

- 1
 - Other company could find a way to produce the treatment, reducing our client's profits.
 - Response from public could be smaller than expected or even contrary.
 - M&A could take too long and companies could not be able to integrate due to different cultures, for example.
 - Even with all strategies, we wouldn't be able to supply the whole market. Meaning that some people would stay without treatment and cure.
- 2
 - Other company could discover a cure and that can reduce our profits. Most clients would prefer buying the cure.
 - We could be saving even a small amount of lives but decide not to.
 - If the general public discovers we decided not to start producing the cure, we could be facing serious backlash and possibly lawsuits.

NEXT STEPS

- 1
 - File for a patent.
 - Do further analysis on companies for the M&A.
 - Study other areas to compensate for profit loss.
 - Study other strategies for compensating for number of people supplied (government deals, non-profit deals, ...).
- 2
 - File for a patent.
 - Invest in ways to make cure cheaper or treatment medicine more efficient.

EXHIBIT 1: PEOPLE WHO WOULD BE ABLE TO BUY THE CURE BY INCOME LEVEL

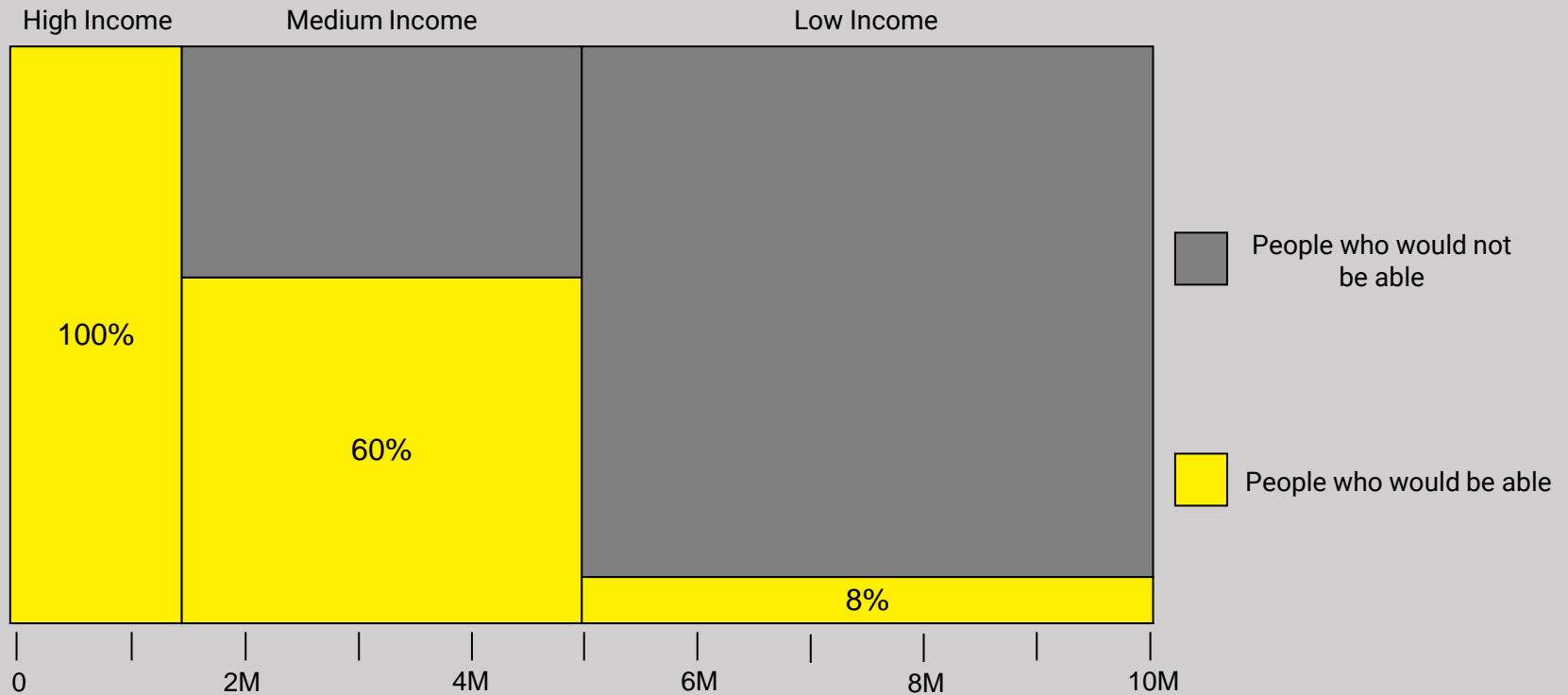


EXHIBIT 2: POSSIBLE PRICES

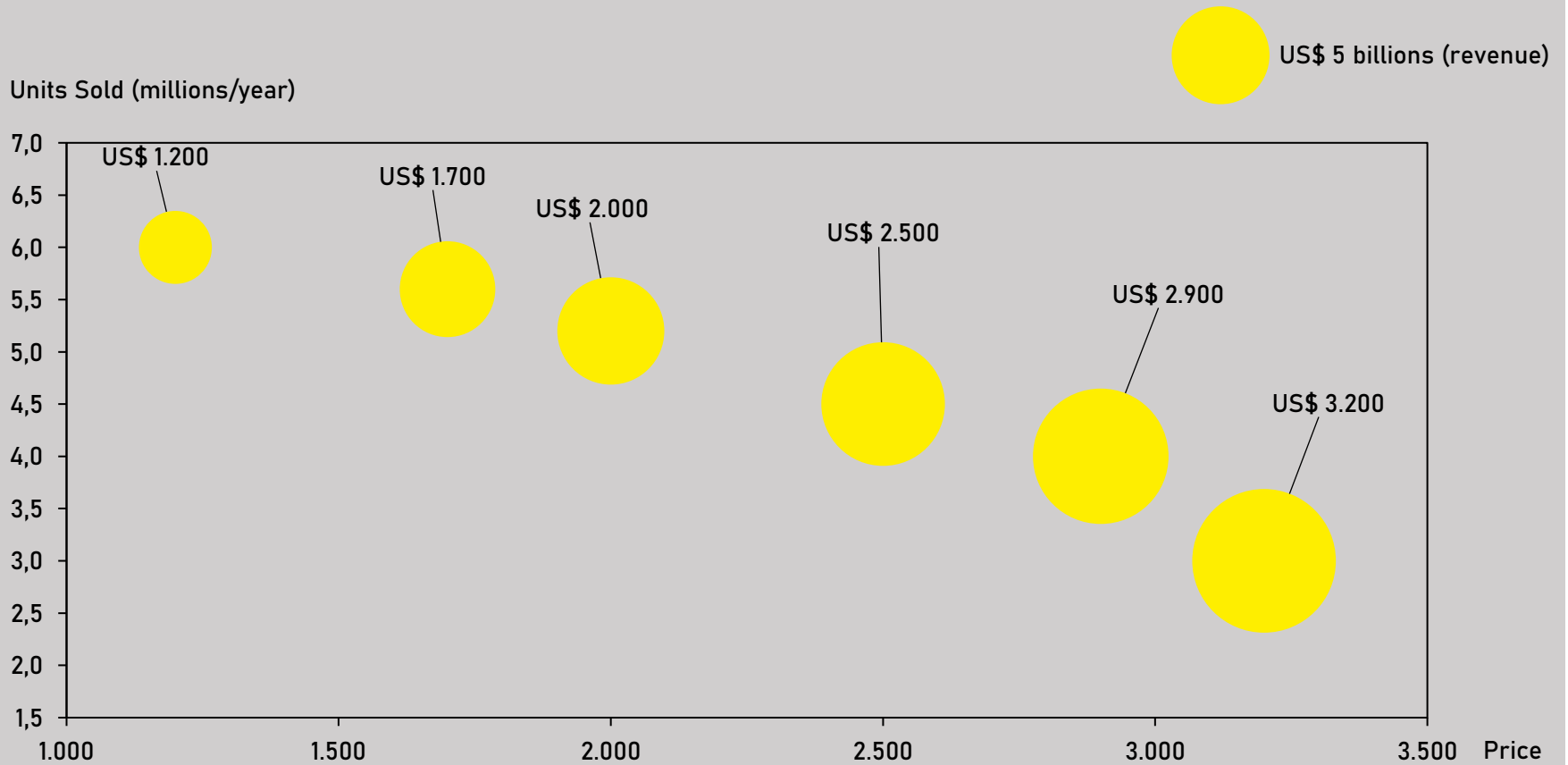


EXHIBIT 3: MEDICINE COMPETITORS

	PRICE (US\$)	SUPPLY CAPACITY*
MED CO.	3 B	1.850.000
HEALTH CO.	9 B	2.850.000
CARE CO.	13 B	3.150.000
PHARMA CO.	6 B	2.150.000

*Number of patients the company is able to supply yearly.



CASE 11: EXPLORATION SA

Difficulty: Medium

Industry: Oil & Gas / Auction

PROBLEM STATEMENT NARRATIVE

Your client is Exploration SA., a player of the Oil & Gas market that works in the extraction of these resources. They are interested in the acquisition of a new Deep Waters well, which is soon going to be sold in an auction. The CEO wants to know if the well is worth bidding for and, if so, how much the company should offer for it.

INFORMATION TO BE PROVIDED UPON REQUEST

- Interested companies bid simultaneously on the well and the highest offer wins.
- The market is divided in two major areas: Onshore wells, which requires less technology and subsequently provides with less resources and Offshore wells, which are divided into three individual categories, shallow, deep and ultra-deep waters. Technology level required for the exploration increases as it gets deeper, and so does costs, needed expertise and available resources for extraction.
- The specific location of the well is not relevant in this case.
- This market has experienced steady growth in recent years, what is expected to continue for the years to come in slightly smaller rates.
- Exploration SA. has great expertise in Offshore oil extraction.
- There are six other companies in this market.
- Our client is willing to spend any amount of money if convinced that its beneficial

GUIDANCE FOR INTERVIEWER

- This is an interviewee led case.
- A good candidate will try to explore the introduction of the case as much as possible.
- The candidate should explore the profitability side, which is not supposed to last long so that the candidate can focus on market analysis.
-
- A good structure will include three major aspects: profitability, competitors and past references for the investment.

PART 1: PROFITABILITY

GUIDANCE FOR INTERVIEWER

- A good structure for analyzing costs should segment it into variable (cost per barrel) and fixed ones.
- If the candidate is struggling to think of possible costs or ways of calculating revenue, brainstorm with them.
- **The present value of the investment should only be given when specifically asked by the candidate.** An excellent one should think of it right away. If it's not taken into consideration, direct the candidate to it.

CALCULATIONS

- Investment's Profitability

Revenue – **Productivity * Extraction time * Price/barrel (USD)**
 $50.000 * (15*360) * 55,00 = \text{USD } 14.850.000.000,00$

Costs – Fixed (Drilling + Staff/others) + Variable (Cost per barrel) * Barrels
 $200 \text{ M} + 180 \text{ M} + 13,00 * (50.000 * 15 * 360) = \text{USD } 3.890.000.000,00$

Profit = USD 10.960.000.000,00

INFORMATION TO BE PROVIDED UPON REQUEST

- The company's technology combined with the quality of the well is estimated to generate **50.000 barrels/day** when the extraction starts (2 years from now).
- At this productivity, the well is expected to last **15 years**. The operation is expected to happen almost all year long, so the candidate can consider **360 days** of production **for each year**.
- The barrel's **average price** during all the exploration should be around USD **55,00**.
- **Fixed costs (15 years altogether):** Drilling – 200 M; Staff and Others – 180 M
- **Variable costs - USD 13,00 per barrel**
- **Present value of the investment (after the calculations are done)**
– USD 5.078.000.000,00

POSSIBLE FOLLOW-UP QUESTIONS

- What could be the revenue streams of the investment? And what about possible costs, what could be the major ones?

PART 2: ESTIMATING COMPETITORS BID

GUIDANCE FOR INTERVIEWER

In order to win the bidding, our client's offer should be higher than those of their competitors. Therefore we should do a competitor analysis. Try to guide the candidate to realize that this analysis is different to the profitability one and that they shouldn't stick to the result found on that one.

If the candidate asks about competitors, how many companies are there, which company is present in what type of exploration, etc. Show them **Exhibit 1**.

Candidate should ask for expected returns of those types of investments for other companies. If they don't, ask them how they could understand what companies allocate better capital or how they could price these investments. Show them **Exhibit 2**.

Candidate could also ask for history of these types of investments. If so, show them Exhibit 3. Explain that the x axis is a grade that oil and gas companies give wells depending on the quality of expected oil and the synergies with the company's know-how, being 0 the worst and 10 the best.

With Exhibit 3, candidate should ask for the grades given to this well specifically, show them **Exhibit 4**.

EXHIBITS ANALYSIS

Exhibit 1 – Candidate should realize that only companies that are in deep waters would take part in the bidding. If asked if there is a chance of other companies entering the deep waters market, ask them what they think and say that risks are low because of technology specificity.

Exhibit 2 – Companies with higher returns have a better pricing strategy. Candidate should notice that Eton Mobil has the only negative returns (return is smaller than investment). If asked, tell them that the company decided to focus in other markets and is currently exiting the deep waters segment.

Exhibit 3 – Candidate can find the multiple returns/grade. Find the correlation between the grade the companies give and the returns. If they don't think of this, guide them to **realizing that the final objective is estimating the companies' investment and, therefore, bid.**

Exhibit 4 – Candidate should realize that the well, based on grade only, would be a good investment for basically all companies and then should join the result with other data.

PART 2: ESTIMATING COMPETITORS BID

CALCULATIONS

Exhibit 3 – Multiples

Candidate should get points in Exhibit 3 in order to calculate multiples. It doesn't matter which ones as long as the results are similar to the ones below. They can also get the grades from Exhibit 4 and see the corresponding point on the graphs. Let them calculate and give them the correct numbers.

Exploration SA – 0,9
Competitor 1 – 0,45
Competitor 2 – 1
Competitor 3 – 0,6

Exhibits 3 and 4 – Multiples x Grade = Expected Return

Exploration SA – $0,9 \times 10 = 9$
Competitor 1 – $0,45 \times 8 = 3,6$
Competitor 2 – $1 \times 3 = 3$
Competitor 3 – $0,6 \times 10 = 6$

Exhibit 2 and Expected Return – Return/Acumulated Rate of Return = Expected Investment

Exploration SA – $9 / 1,2 = 7,5$ **billions**
Competitor 1 – $3,6 / 1,1 = 3,3$ **billions**
Competitor 2 – $3 / 0,5 = 6$ **billions**
Competitor 3 – $6 / 1,4 = 4,3$ **billions**

EXHIBIT 1: COMPETITORS ANALYSIS

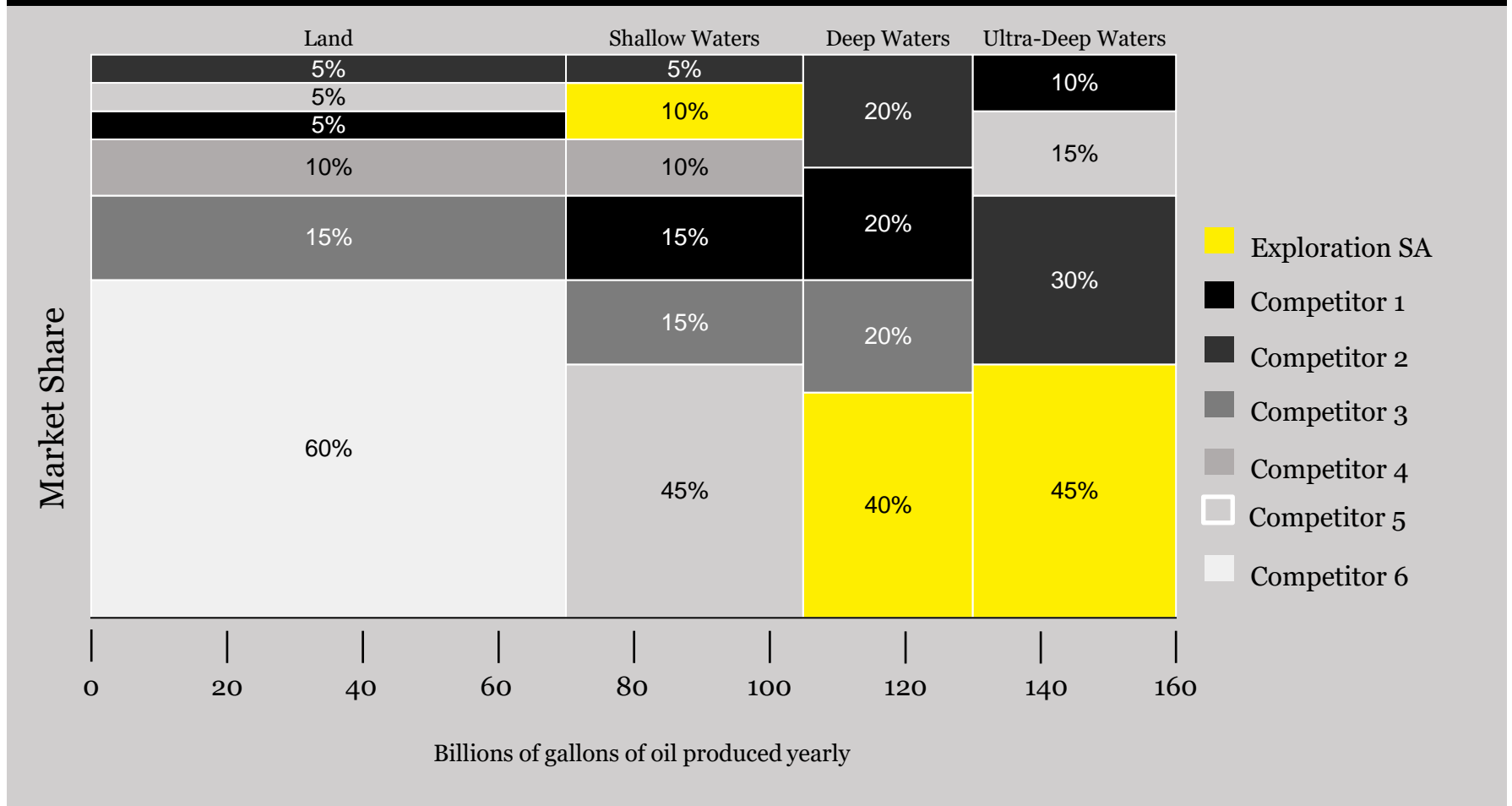


EXHIBIT 2: MEDIUM RETURN OVER SIMILAR INVESTMENTS

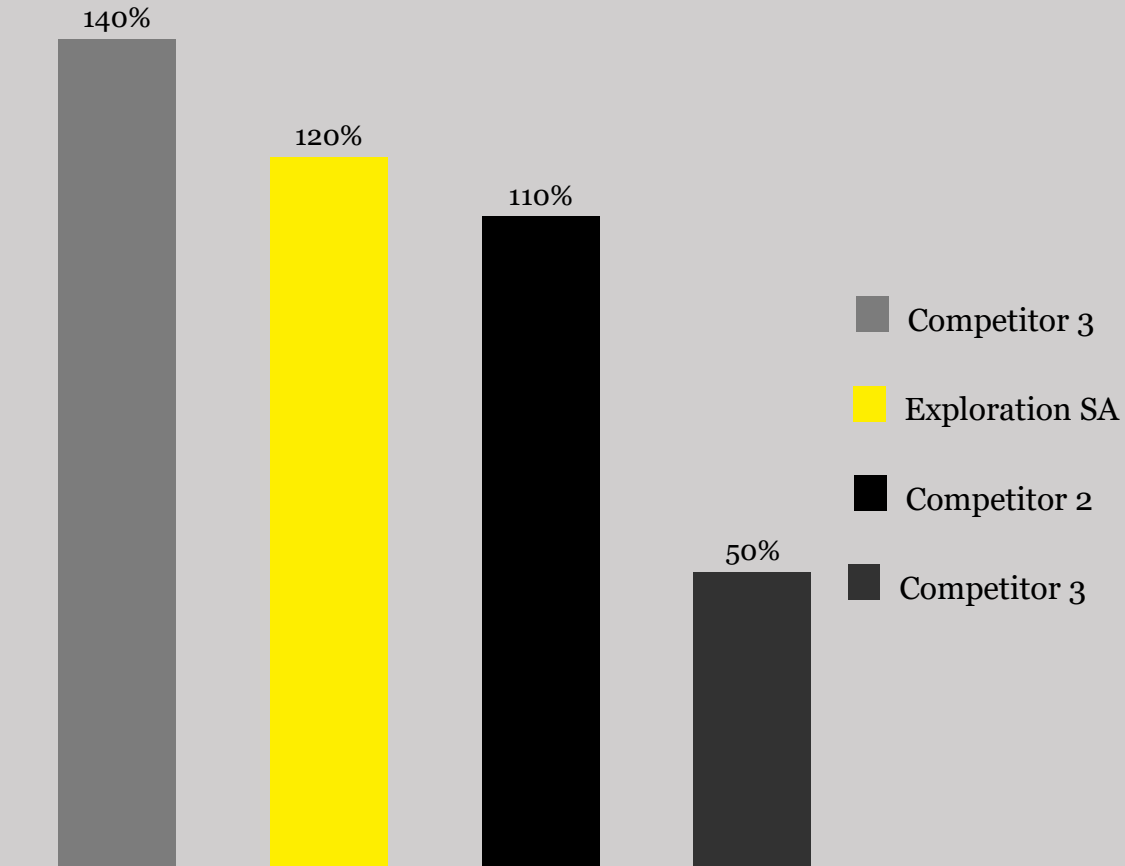


EXHIBIT 3: RETURN (US\$B) X GRADE

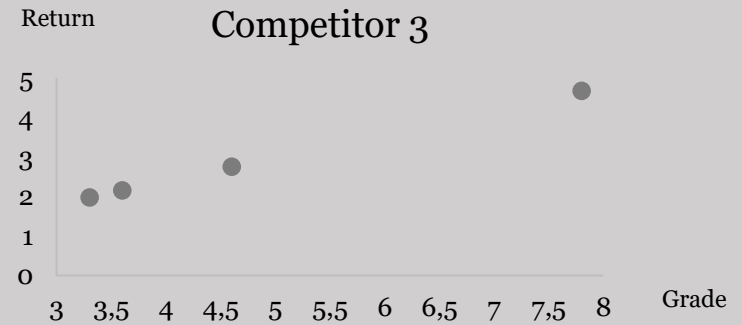
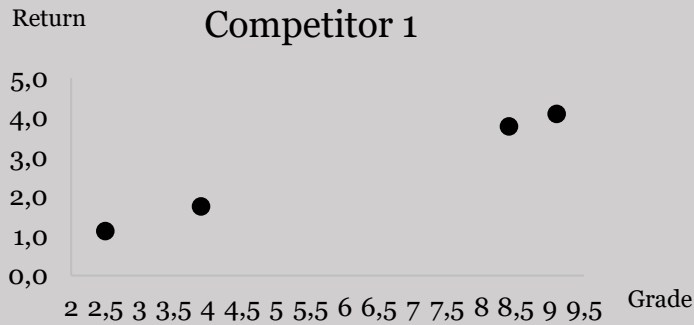
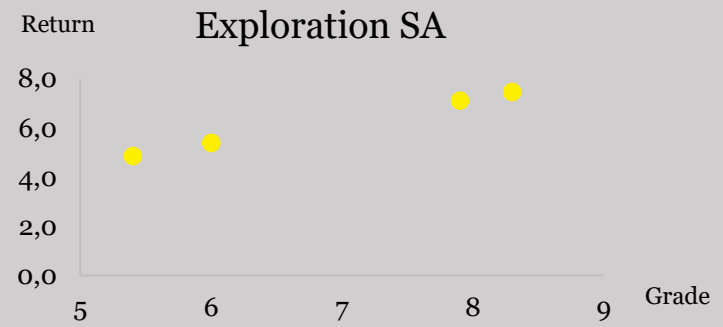
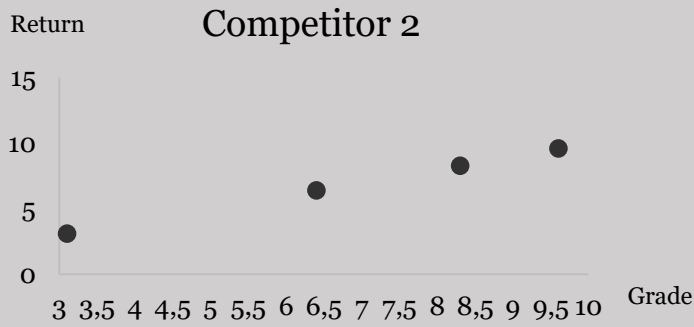


EXHIBIT 4: GRADES

COMPANY	GRADE
EXPLORATION SA	10
COMPETITOR 3	10
COMPETITOR 1	8
COMPETITOR 2	3

SAMPLE RECOMMENDATION

Ask the candidate to prepare a brief recommendation for the CEO:

Client should try to buy the well:

- The bid during the auction should be between 3,2 Billion and 5,0 Billion dollars
- Its more than the value our competitors are expected to offer
- It doesn't exceed the expected earnings

RISKS

There are four major risks:

- Competitor 3 and/or Competitor 1 may bid higher than expected
- Predictions like average oil prices and expected costs may be imprecise
- The well could last significantly less time than expected
- Risk of an environmental disaster due to mistakes during extraction could result in lawsuits and money losses for the company

NEXT STEPS

Possible follow-up actions are:

- Initiate the process of presenting the offer
- Analyze possible variations in the values that may be offered by our client's competitors to bid on the well
- Further analyze average oil prices and costs increase so that risks regarding profitability may be diminished
- Reformulate the company's process of pricing its wells since they seem to be bidding more than wells are actually worth

CASE 12: RETAIL & CO

Difficulty: Medium

Industry: Cloth & Household appliance

PROBLEM STATEMENT NARRATIVE

Retail & Co. is one of the leading companies in the retail market. In the last year, its profit margin has decreased, and due to this fact, the CEO has been pressured by shareholders to increase it by at least 4 percent. You've been hired to help him understand possible ways to achieve or exceed this target.

GUIDANCE FOR INTERVIEWER

The interviewee should ask about the financial result or profit margin in recent years, when it happens, **show him the exhibit 1**.

Then the interviewee should identify that the increase in revenue and the decrease in Retail & Co.'s profit margin was caused by the introduction of new products in the company's mix. When the interviewee arrives to this part, **show exhibit 2**.

The interviewee must calculate total revenue and total costs of these new products in order to discover their profit margin, then he should analyze if there are any product that are not worth maintaining or changing its price.

The last step is, accounting for new changes, to project the new revenue, cost and margin of 2020, to make sure that shareholder's goal has been achieved.

CLARIFYING ANSWERS

- Retail & Co. is one of the 5 largest companies worldwide. It sells products of all categories, from clothing to household appliances.
- Its customers are extremely loyal to the brand.
- Retail & Co. operates only with owned stores.
- The retail market has been stable in recent years.
- Retail & Co. has gained some market share in the past year.
- It is not necessary to consider inflation, market growth or any rate of variation over the years.
- This case is situated in January 2020 .

INSIGHT ON EXHIBIT 1

The company has grown its revenue and consequently its costs, showing that something different must have happened in year 2019. However, as said in the problem statement, its profit margin have decreased. The interviewee should calculate 2018's and 2019's margins to understand how much has it decreased and if it's recoverable.

The interviewer should stimulate the interviewee to think about possible causes for the company revenue's growth. This process should continue until the interviewee points out that the company may have released new products in 2019. If so, show him **exhibit 2**.

CALCULATIONS

In order to discover the past and actual profit margin the interviewee should do the following calculations:

Profit = Revenue – Costs

Profit margin = Profit / Revenue

2018:

Profit = \$800.000 – 600.000 = 200.000

Profit Margin = 200.000 / 800.000 = 25%

2019:

Profit = \$1.600.000 – 1.300.000 = 300.000

Profit Margin = 300.000 / 1.600.000 = 19%

INSIGHT ON EXHIBIT 2

Retail & Co. has released 5 new products in 2019.

Product 3 and 5 are not worth as each sale gives Retail & Co. a loss per product of \$1,00 and \$7,00 respectively.

Even though Product 1 and 4 don't have a good profit margin, they are still profitable and should be mix in order not to interfere too much in the company.

GUIDE FOR INTERVIEWER

As 2 of the 5 products are not profitable, the interviewee should start analyzing them. He should think of ways to increase the profitability of these 2 products. After some time he should state the idea of changing the price or stop selling these products.

The moment he mentions this idea the interviewer must instigate him to continue thinking about that and structure more this solution.

If he asks more information about the price in the market, **show him the exhibit 3.**

CALCULATIONS FROM EXHIBIT 2

	Product 1	Product 2	Product 3	Product 4	Product 5
Total Revenue	\$70.000,00	\$390.000,00	\$231.000,00	\$75.000,00	\$68.000,00
Total Cost	\$65.000,00	\$264.000,00	\$234.000,00	\$69.000,00	\$96.000,00
Total Profit	\$5.000,00	\$126.000,00	-\$3.000,00	\$6.000,00	-\$28.000,00
Profit Margin	7%	32%	-1%	8%	-41%

INSIGHT ON EXHIBIT 3

Product 5 has the highest price in the market even though it gives Retail & Co a \$7 loss per unit. Knowing that, the candidate should recommend to stop selling this product.

The other products are in the market price range so the candidate must think a little bit more on the pricing strategies of the products.

GUIDE FOR INTERVIEWER

As said before, the candidate must mention the idea of stop selling product 5, if he doesn't do that, the interviewer should instigate him to think about the pricing strategies of every product.

The candidate should state pros and cons of rising the price or lowering it.

For rising the price, the pro is that for each product the company will earn more and could start having profit in some products, but the sales may lower down.

For lowering the price, the company may have more sales with each product, but it will earn less by each sale and even stop being profitable with some products.

After letting the candidate think about the prices for a while, the interviewer should say that the company does not want to change the price in products that are profitable (product 1, 2 and 4).

Having that in mind, the candidate should see that the only product that makes sense changing its price is the third one. The interviewer should ask how to know which price is better. The candidate should bring the relation between price and demand or volume of sales. If so, show him the **exhibit 4**.

INSIGHT ON EXHIBIT 4

It doesn't make sense for the company to lower the price to 77 or below as the product would stop being profitable.

The market is very flexible to change of prices in the range from 77 to 79 but this range isn't interesting, as the company would earn less.

The demand is more affected from price changes in the range from 81 to 79 and 79 to 77.

GUIDE FOR INTERVIEWER

The company won't accept a change in price higher than \$5.

The candidate should calculate the new profits and profit margins for the possible prices.

Total profit and profit margin with product 3 new prices = **New profit * sales** **Profit / Revenue**

Actual \$77 price = $-\$1 \times 3000 = -\3000 $-1 / 77 = -1\%$

\$79 price = $\$1 \times 2800 = \2800 $1 / 79 = 1\%$

\$80 price = $\$2 \times 2500 = \5000 $2 / 80 = 3\%$

\$81 price = $\$3 \times 2000 = \6000 $3 / 81 = 4\%$

Having these results, the candidate should recommend to rise the product 3 price to \$81, as it increase not only the profit margin but also the profit itself.

MARKET SIZE

2019:

Total revenue = \$1.634.000

Total Cost = \$1.328.000

Total Profit = \$1.634.000 – \$1.328.000 = \$306.000

Profit Margin = \$306.000 / \$1.634.000 = 19%

Product 3 price change and product 5 stop:

Product 3 Revenue difference = 231.000 – 162.000 = 69.000

Revenue = \$69.000 + \$68.000 = \$137.000

Product 3 Cost difference = 234.000 – 156.000 = 78.000

Cost = \$78.000 + \$96.000 = \$174.000

Profit = \$137.000 - \$174.000 = \$ -37.800

Difference between both (2019 - products 3 and 5):

Revenue = \$1.634.000 - \$137.000 = \$1.497.000

Cost = \$1.328.000 - \$174.000 = \$1.154.000

Profit = \$305.200 – (\$ -37.000) = \$ 343.000

Profit Margin = \$343.000 / \$1.497.000 = 23%

INFORMATION FOR THE INTERVIEWER

To see the impact that changing product's 3 price and taking out product 5 from the product mix will have in the financial of the company, the interviewer should calculate how much the new profit margin will be, as improving it, is the requirement to solve the case.

The interviewee can find it in different ways. The simple one is to find the total revenue and profit of year 2019 and subtract the total revenue from the difference on product 3's revenue and product 5's and revenue. At the end of that he will have the revenue of the operation without product 5 and product 3 new price. Do this to the costs also.

Having that, it's time to calculate the profit margin (Profit / Revenue) and compare it to the actual one.

Obs: if asked, the revenue and costs from the products of the 2018 product mix, does not change over time (\$800.000 and \$600.000).

INFORMATION FOR THE INTERVIEWER

The conclusion is that, by taking out the product 5 from the product mix and changing product 3 price, the company got an increase in 4 percent.

That satisfies the requirement that the investors asked for: increase the profit margin in 4 percentage points, while interfering as less as possible in the company.

SAMPLE RECOMMENDATION

Ask the candidate to prepare a brief recommendation for the CEO:

The company should stop selling products 5 and change the price of product 3 from \$77 to \$81 in order to stop losing money with them and improve its margins. The company will lose some revenue, but its profit would increase together with its profit margins, so it would be a great solution.

RISKS

The result of 2019 could be atypical and don't represent the real profit that these products may have. They may be better or worse in a "normal" year.

Maybe product 5 could be escalated and its cost decreased making it a profitable item.

Maybe the market does not accept the price change as expected.

NEXT STEPS

Possible follow-up actions are:

- Studying the scenarios from each product in order to see if the values studied before are the overvalued or undervalued.
- Try to get bigger profit margins in other products like 1 and 4.
- Releasing new products with higher margins.

EXHIBIT 1

REVENUE AND COSTS FROM RETAIL

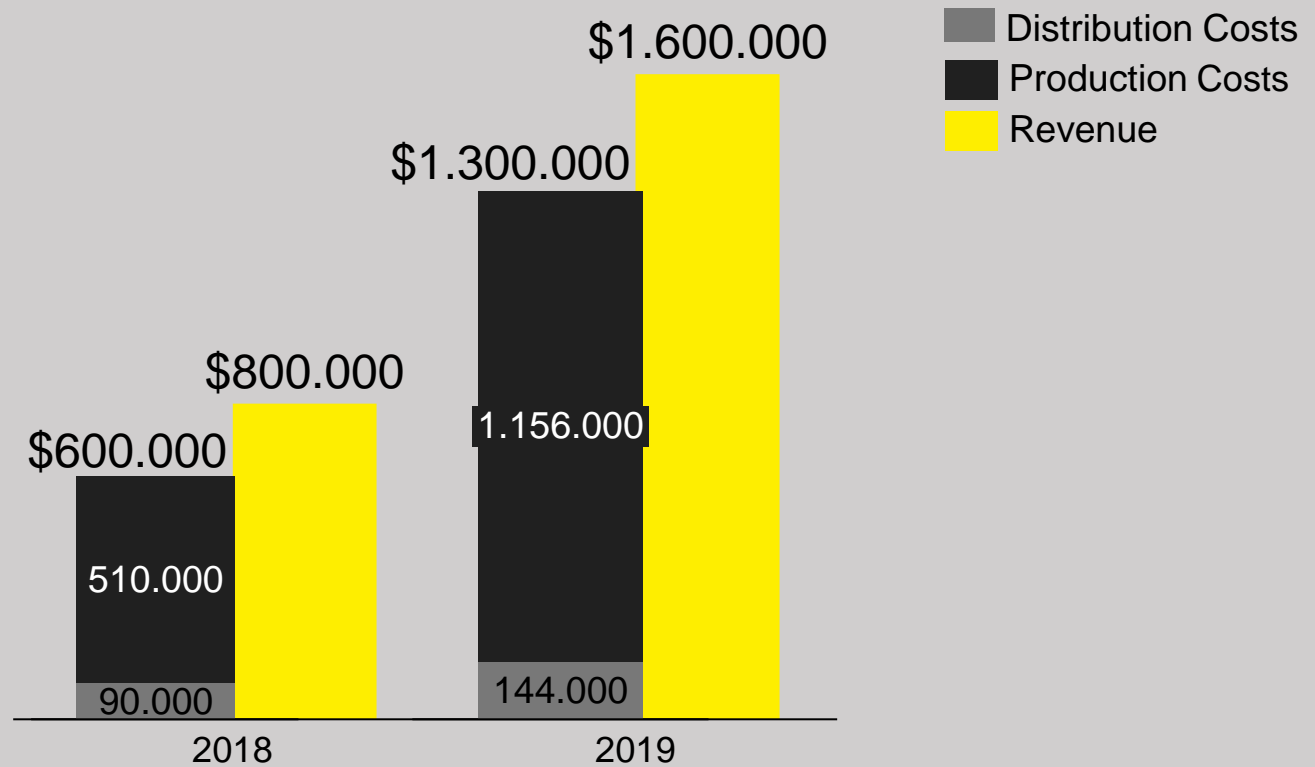


EXHIBIT 2: PRODUCTS ANALYSIS

	Product 1	Product 2	Product 3	Product 4	Product 5
Price per unit	\$14,00	\$130,00	\$77,00	\$25,00	\$17,00
Production Cost per unit	\$10,00	\$85,00	\$75,00	\$20,00	\$21,00
Sales	5000	3000	3000	3000	4000

* Each unity has an additional \$3,00 cost related to logistics, delivery and taxes

EXHIBIT 3

HIGHEST AND LOWEST MARKET PRICES

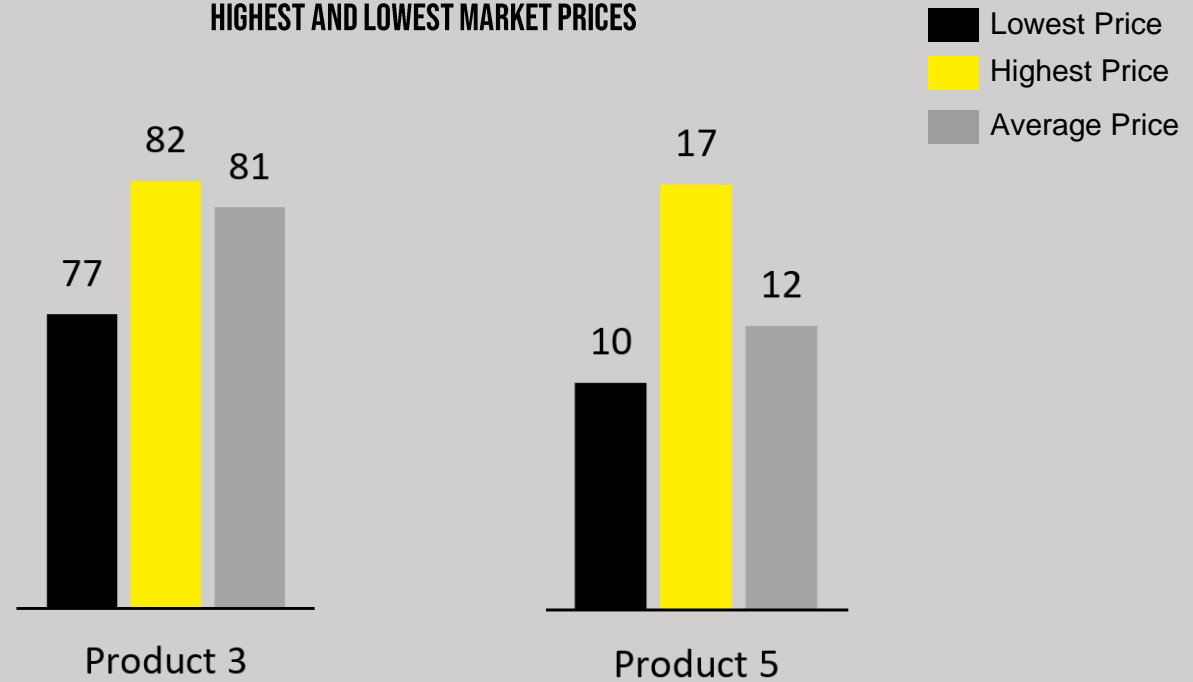
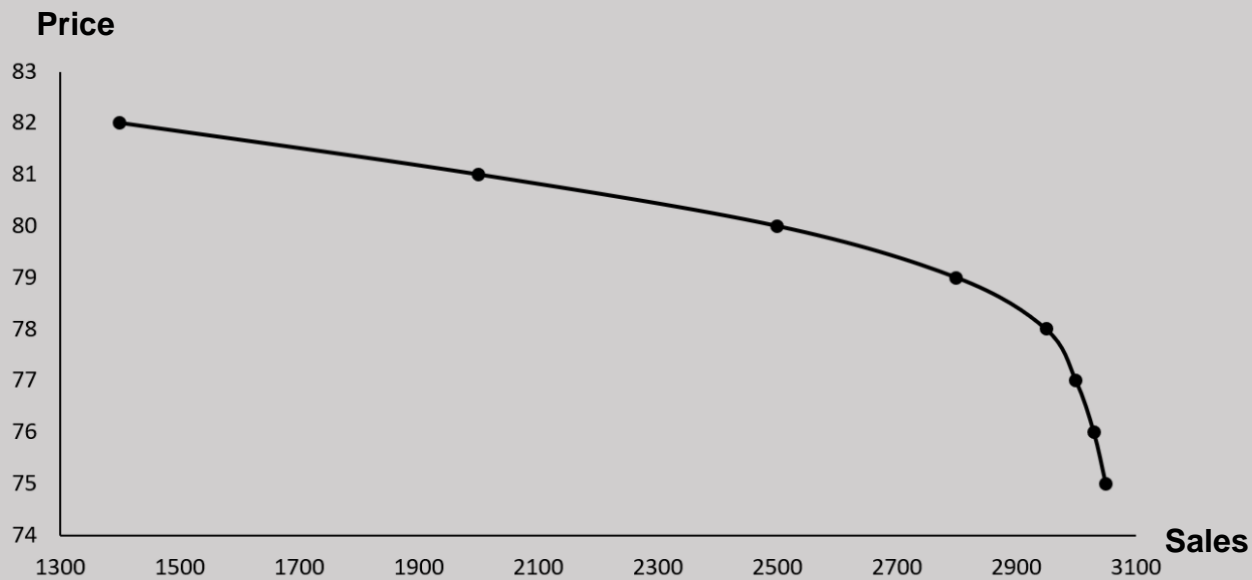


EXHIBIT 4

PRODUCT 3 PRICE/DEMAND ELASTICITY



Price per unit	Sales
\$82,00	1400
\$81,00	2000
\$80,00	2500
\$79,00	2800
\$78,00	2950
\$77,00	3000
\$76,00	3030
\$75,00	3050

CASES: REFERENCES TO COVER PHOTOS

Cover: <https://pixabay.com/pt/photos/escrit%C3%B3rio-neg%C3%B3cios-colegas-reuni%C3%A3o-1209640/>

Case 1: Soccer Game - <https://unsplash.com/photos/m3hn2Kn5Bns>

Case 2: Black Pearl - <https://unsplash.com/photos/8uabPZmXJ4s>

Case 3: Marine Co - <https://pixabay.com/pt/photos/escola-peixes-menhaden-aquário-3429478/>

Case 4: Emaker - <https://www.pexels.com/pt-br/foto/ambiente-de-trabalho-area-de-trabalho-balcao-caneta-583847/>

Case 5: Tech Co. - https://unsplash.com/photos/MP0bgaS_d1c

Case 6: Doctors Away - <https://unsplash.com/photos/yo01Z-9HQAww>

Case 7: Music in Rio - <https://unsplash.com/photos/bn-D2bCvpik>

Case 8: Cluber's Market Share - <https://www.pexels.com/pt-br/foto/automobilistico-automotivo-automotor-automovel-1386649/>

Case 9: Rental Cars - <https://www.pexels.com/pt-br/foto/agil-alcatrao-asfalto-auto-164634/>

Case 10: Cure Co. - <https://www.pexels.com/pt-br/foto/analgesicos-assistencia-medica-capsula-ciencia-208512/>

Case 11: Exploration Sa - <https://www.pexels.com/pt-br/foto/mar-ceu-agua-oceano-3207531/>

Case 12: Retail Co. - <https://www.pexels.com/pt-br/foto/aguentar-algodao-arara-para-pendurar-roupa-armario-de-roupa-2447042/>

UFRJ CONSULTING CLUB

Colaborators: Alexia Schatz, Ana Carolina Moura, Beatriz Colker, Beatriz Félix, Bernardo Miura, Daniela Fornasari, Diego Iglesias, Felipe Lavaquial, Gabriela Lavrador, Gabriela Roza, Isabela Neno, Isadora Braga, Júlia Lübe, Juliana Rambaldi, Julio Recalde, Laila Mannheimer, Lucca Marques, Luisa Souza, Luísa Vasques, Matheus Lacerda, Miguel Thedim, Newton Bruno, Sabrina Oliveira, Suzan Trabulsi, Vinicius Wolff e Vitor Hipólito

UFRJ Consulting Club - Organização Estudantil - Prédio do Centro de Tecnologia - Bloco F - Ilha do Fundão - RJ
Site: consultingclub.com.br
E-mail: consultingclub@poli.ufrj.br
Facebook: facebook.com/ufrjcc