Consulting
Guide'22.

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Developed by the Consulting Team at Consulting & Analytics Club, IIT Guwahati.

Visit the official page of Krack the Case at **iitg.ac.in/sa/caciitg/ktc**.

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About Consulting & Analytics Club, IIT Guwahati

The Consulting and Analytics Club at IIT Guwahati (C&A) aims to facilitate a seamless transition from graduate school to a successful career in management consulting and data analytics through awareness, skill-building, and networking. We aim to impart and inculcate our culture of learning-by-practice among students and professionals alike. To that end, C&A supports and organises a multitude of events throughout the year, including webinars, AMAs, workshops, hackathons and case challenges.

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What's new in the 2022 Edition

Our team is excited to return with the **2022** edition of **Krack the Case — Consulting Guide**. We've aimed to make this an all-in-one guide to cater to all skill levels and aid your induction into this omnipresent sphere.

We've tried to recreate the bottom-up system of discussion that goes from the grassroots to more complex fundamentals to make the content accessible to a wide range of skill levels. This edition categorises topics under six 'focuses' to make the guide more readable for students. Each topic has been divided into sub-topics and opens with an overview of the same to simplify learning. This edition also reorganises the case transcripts under the respective topics.

We at C&A have always strived to create communities of learners and teachers. This spirit of peer-assisted learning reflects in both our in-house and open-to-all events, bolstering outputs through collective motivation and healthy competition. On that note, we're thrilled to introduce you to Winter Consulting, our annual consulting and business strategy course in December. We hope this guide is an enriching read and an invaluable resource for consulting & PM aspirants. Keep learning!

How to use the guide?

To better utilise this guide, you should familiarise yourself with the general structure of the guide:

Part 1 (Consulting — The Basics and Beyond): This segment introduces you to the basics of consulting and gives a general approach to communicating ideas and solving case problems.

Part 2 (Mapping the Problem): This section discusses issue trees and the MECE approach, helping you better comprehend the causes and consequences.

Part 3 (Guesstimates): This section gives you a structured approach to attempting guesstimates and a compilation of over 75 previous years' guesstimates.

Part 4: (Consulting Tools): This part consists of various tools used by consultants and aspirants when solving cases.

Part 5 (Case Frameworks): This section introduces you to various case types and solved examples in the form of transcripts.

Part 6 (A Glimpse into the PM World): This part briefly introduces a product manager's work and various frameworks used in product management.

Additional Case Problems from our partner *PrepLounge GmbH* and an appendix consisting of a list of useful formulae and data points have been added at the end of the guide.

Applying the Concepts

Start with clarifying questions. You could follow the *3Cs framework* to gain insights about customers, competitors, and the company.

You can understand the internal and external factors affecting the company using *SWOT* and *PESTEL* analyses. One can use *Porter's Five Forces Analysis* or *Potential Industry Earnings (PIE) Model* to determine the competitive structure of an industry and its profitability.

Similarly, *BCG Growth Matrix* or *GE-McKinsey Nine-Box Matrix* can be used to restructure business units or plot the product portfolio's competitive position.

Finally, while suggesting recommendations, the interviewee can evaluate the strategic fit of the solutions by analysing cost-feasibility and cost-benefit.

TABLE OF CONTENTS

Consulting:
The Basics and Beyond

Overview — Roles of a Consultant

Consulting is more than just giving recommendations on solving the client's dilemma. Although that is the primary function of a management consultant, there are more roles linked with their expertise.

Understand the underlying needs of the client

Effective diagnosis possibly involving redefinition of the problem

Recommending an action plan based on the diagnosis

Assisting with the implementation of the action plan created

Continuous evaluation of the recommended solutions in future

Case Interview Mindset

Understand the case properly and ask clarifying questions to get a better look at the underlying problem.

Generate relevant insights from existing knowledge, strategic tools and initial clarifications.

Analyse the problem properly and construct a structured approach to gain insights and solve it.

Communicate the assumptions, insights and recommendations in a structured form.

As illustrated above, consulting requires a wide array of skillsets. We shall now expand on some of these aspects before discussing how to evaluate your steps and some things to take care of while attending a case interview.

The Pyramid Approach to Communicating Ideas

Top to Bottom ↓

Introduction: Key Message

Don't save your best for the last. Make sure that your intention is clear to the client or interviewer.

Deliver supporting arguments in mutually exclusive and collectively exhaustible (MECE) components.

Supporting Arguments in MECE Components

Use relevant data to derive conclusions.

Supporting Data for Each Argument
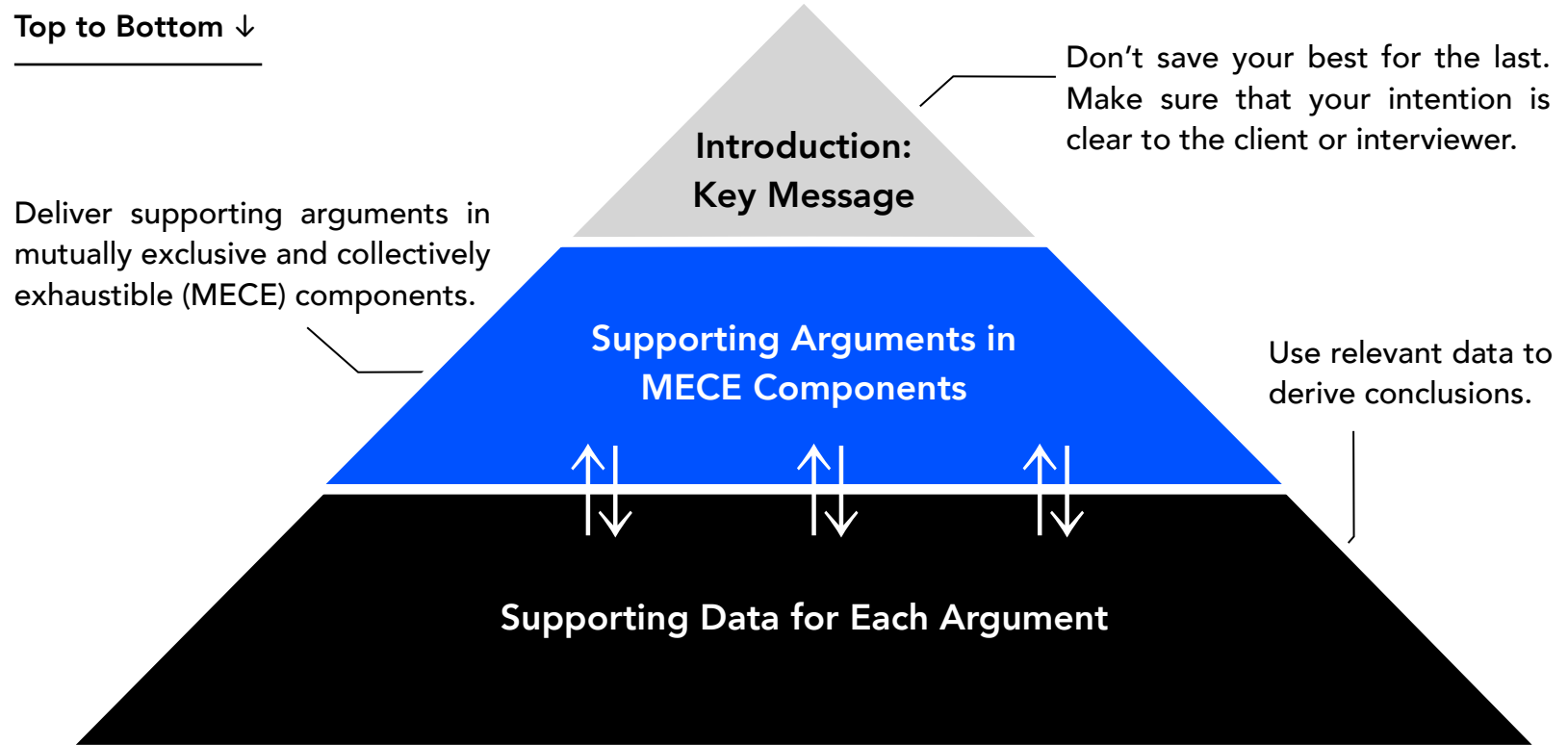
The Pareto Principle

The Pareto Principle, also known as the 80/20 rule, states that 80% of effects (or results) come from 20% of the causes (or efforts). It indicates you need to concentrate your efforts in the areas that matter most and that it's sometimes okay to let the trivial things slide.

Examples:

1. 20% of its products account for 80% of a company's profits.
2. 20% of shareholders own 80% of the equity.
3. In customer service, 80% of the complaints come from 20% of your customers.
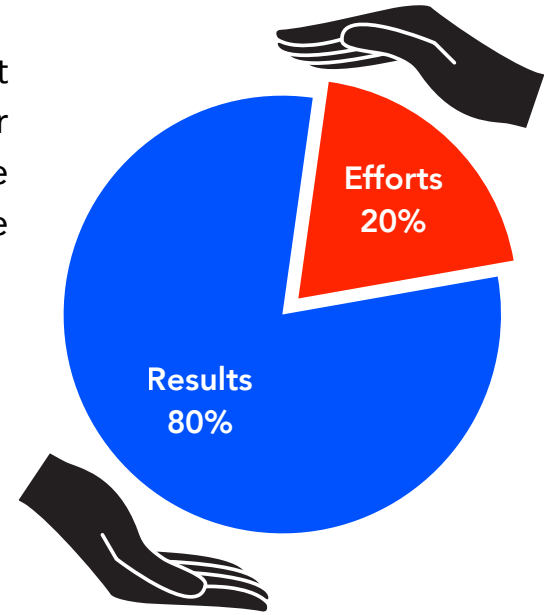
Remember that Pareto Principle is a rule of thumb, not a law. There might be situations where it does not apply.

Solving Case Interviews — Evaluating your approach

Here are some questions that one should ask themselves (or the interviewer, if relevant data is not provided) to explore the context of a case problem:

- Which related aspects of the client's business are not going well?
- Which solutions have been attempted in the past, and with what results?
- What are the client's core capabilities?
- Is there a need to redefine the problem to analyse it from a different point of view?
- How will the solution be applied if the problem is solved?
- How to ensure the recommended solution needs fewer modifications in future?

Situation-specific questions have been added along with their respective frameworks.
Case Frameworks - Table of Contents ⬀

Recommended Reads | Harvard Business Review - The Surprising Power of Questions
[click here]

General Tips

- Be prepared with different tools and case frameworks. Practice a few cases beforehand and stay updated on industry news.
- Communication skills would be of utmost importance. While solving the case, **think out loud!**
- Ask clarifying questions in the beginning. Asking the right questions increases the chances of finding an accurate solution. Also, don't forget to take notes throughout the process.
- Do not make any assumptions unless necessary; even if you do, communicate with the interviewer to get them validated.
- Be calm, confident and patient with your approach. Take time to compose your thoughts — don't just start talking.
- Do not get stuck on calculations! Round off numbers, and use them quickly and efficiently.
- Whenever a framework is used, communicate the approach to solving the case rather than mentioning the exact framework.
- Don't panic — engage the interviewer in a straightforward conversation.
- Keep communicating with the interviewer to let them know of your thought process. In most cases, the interviewers will help you get back on track if they see you going in the wrong direction.

Mapping the Problem

Issue Trees

Issue trees are considered the bread & butter of a consultant's life. Making an issue tree is essential for **mapping** the problem. This begs the question, what are issue trees?

In simple terms, it's a method of dissecting a problem to its root cause and finding probable solutions logically. An issue tree is an efficient and logical tool to answer quantitative concerns. Moreover, they aid in categorising ideas which cover all possibilities without going deep into minute details. The issue tree and each sub-tree are a **MECE** structure *(see the next page)*.

Types of Issue Trees

Diagnostic Trees
Answers the question 'why' and identifies and categorises all possible root causes for the problem.

Solution Trees
Answers the question 'how' and identifies all possible alternatives to fix the problem.

MECE Approach

MECE stands for Mutually Exclusive and Collectively Exhaustive.

Mutually Exclusive means that the smaller pieces of the issue tree cannot overlap, thus creating more efficiency as no two parts overlap. Hence there is **no repetition. Collectively Exhaustive** means creating an issue tree that sums up all the possibilities by combining all sub-classes. This ensures that it does not miss any new ideas or options.

The components are listed vertically and progress into details as it reads to the right. While creating issue trees using the MECE approach, one should also ensure that the sub-objects that the issue is divided into belong to the same class, and one should not use too many sub-objects.

Details

Components

Details

Creating Issue Trees

Start with a well-defined problem attached with an objective.

Identify the causes efficiently in a structured manner.

Break down the problem into branches.

Identify causes efficiently using hypothesis and data given in the case.
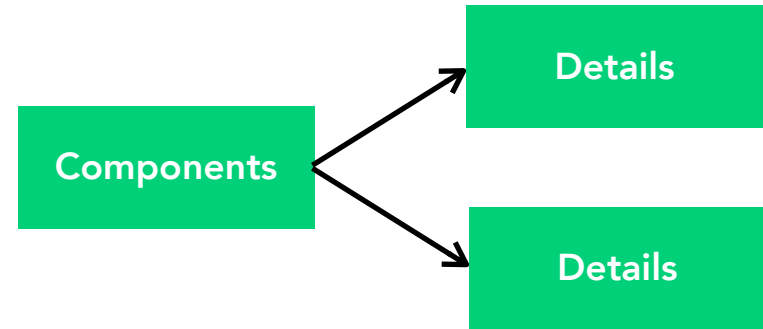
Recommend solutions after a thorough analysis.

1. **Divide and Conquer:** Start with finding the root cause of the problem and divide it into sub-problems keeping in mind the MECE approach.
2. **Lay down a structure:** Use the MECE approach to segment information. Add mini MECE layers to each subsequent layer. This will help to solve the problem efficiently at each layer.
3. **Continue until you solve the problem.**

Solved Examples

Problem Statement 1

Paramount+ recently updated its streaming app to include an Intelligent Recommender Feature. However, this feature is facing low adoption among its subscribers. Find out the reasons why.

Clarifying Questions

1. How long ago did the company update the app?
   The app was updated just over three months ago.
2. Is this issue limited to specific geography?
   No, the problem is not isolated to a particular region.
3. Do other streaming services offer this feature?
   Netflix and Disney+ provide similar features on their apps, but not on web players. In addition to our apps, we are offering this feature on all supported browsers.

Structure
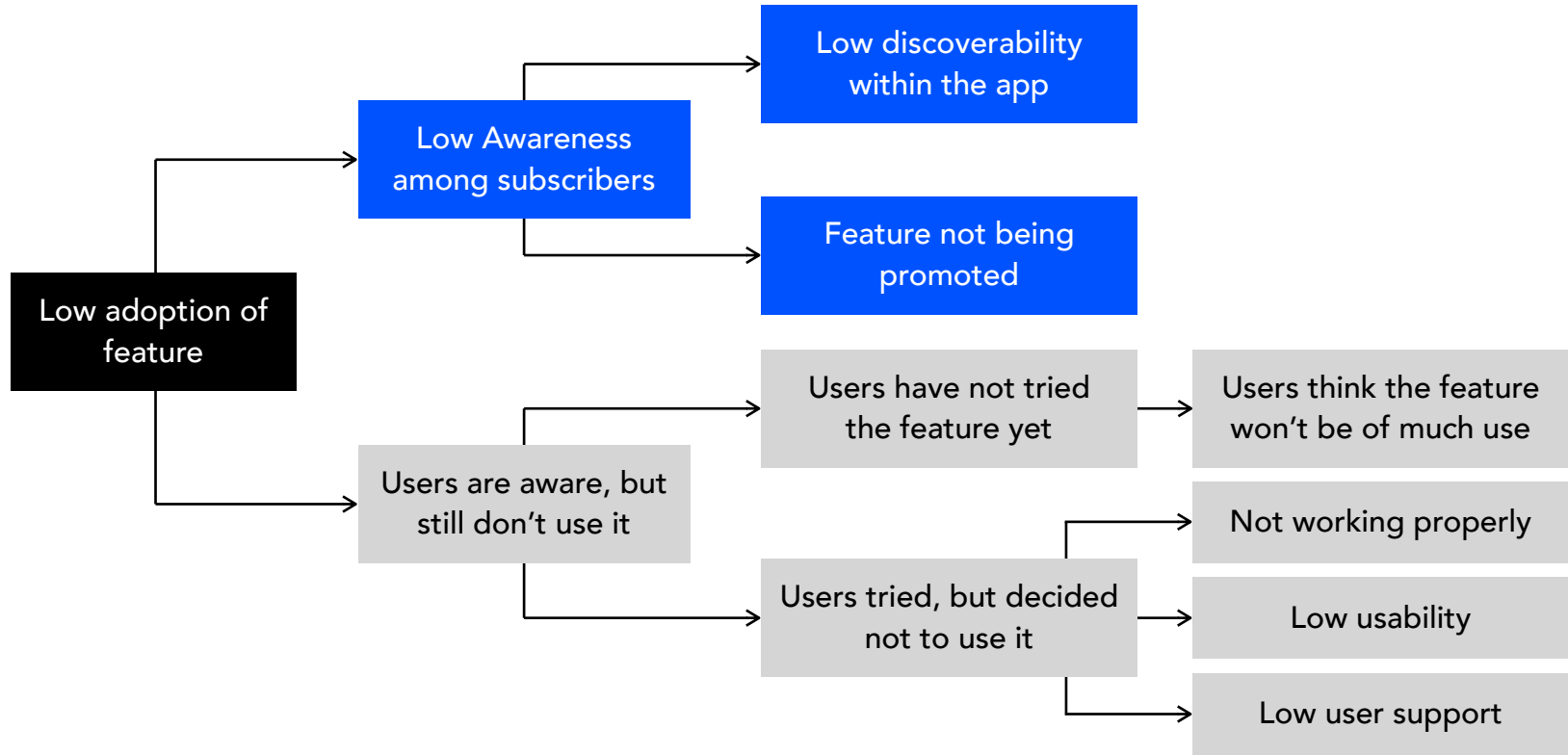
Problem Statement 2

Estimate if the new targeted ad structure yields more revenue than the current one of a company which sells monthly magazines in India.

Clarifying Questions

1. What is the current ad revenue structure?
   We include full-page ads in our magazine and get paid for by the company whose ad it is. Today, we sell 1M copies. Each magazine has 100 ads. Each ad costs $50 per 1000 copies.

2. What exactly do you mean by targeted ads?
   We have data on our customers based on which we would send relevant ads to them.

3. What are the categories based on which you want to target ads?
   We have premium brands' ads and non-premium brands' ads today. The proposal discusses sending premium brands' ads to upper class/ premium customers and non-premium brands' ads to economy customers.

Structure

Division 1 - Revenue	Percentage
Subscription-Based	80%
Newsstand	20%
Division 2 - Customer	Percentage
Premium	75%
Economy	25%

$$\text{Cost} = \text{No. of Magazines} \times \text{No. of Ads per Magazine} \times \text{Cost of ads}$$
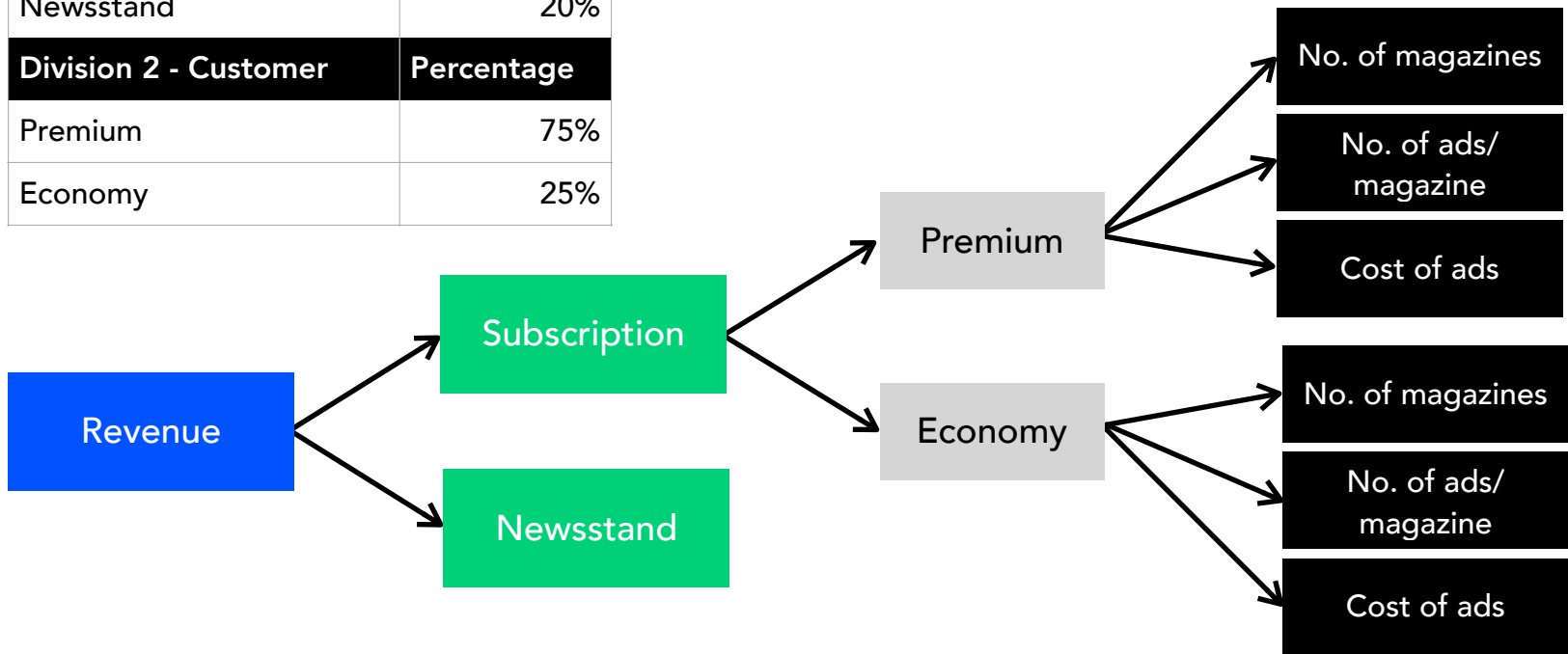
Guesstimates

What's a Guesstimate?

The term is a portmanteau of guess and estimate and was first used by American Statisticians in 1934-35. As such, a guesstimate aims to test a candidate's qualitative and quantitative skills, as well as capacity for thinking on-their-feet.

A guesstimate combines conjecture and calculation. Therefore, it is an estimate based on rudimentary information and perception.

By the end of this section, you'll understand:

1. Using guesstimates in a practical context,
2. Advantage and scope of guesstimates,
3. How to approach a guesstimate question.

Additionally, we've added solved problems and curated a collection of guesstimates asked by MBBs, The Big Four, software giants and other Wall Street firms.

Advantage and Scope

1. Testing the candidate
It tests the analytical power as well as the numeric skills of the candidate. Moreover, it gives an idea of their ground-level understanding and ability to approach a problem.

2. Rough Validation of Data
It gives a vague estimate of values to check the practicality of numbers; hence it works as an excellent tool to discard wrong statistics.

3. Feasibility of Executing a Plan
It checks for the chances of successful execution of an event, preventing wastage of resources.

4. Quick and Economical
Surveys are generally too expensive and time taking. So, guesstimates get the upper hand when the exactness of data doesn't matter.

5. No prerequisites
There is no need for preplanning and thus provides flexibility. This could be performed at any moment with the information we usually possess.

Tips and Tricks

1. Do not take guesstimates lightly, as they are now essential for several interviews. Prepare various guesstimates beforehand so you are well equipped to tackle them during the interview.

2. Remember, it is not about numbers but the approach. However, take assumptions with justifications and keep them as sane as possible (you can ask the interviewer if your belief makes sense).

3. Think out loud – walk the interviewer through your thought process.

4. Work with simpler numbers, round off intelligently, and use percentages.

General Method (1/2)

Step 1

Clarifying the Scope

Anything that is/may seem ambiguous must be cleared right away. Ask questions! Smart questions show that you have an eye for detail. You need to identify the constraints you are working under to answer clearly and move through the case faster.

Step 2

Developing a Strategy

Think of an overall strategy that exhaustively covers the issue at hand. Try to think from different perspectives as well. Generally, three methods are used (with tailored variations) — Top-Down Method, Bottom-Up Method, and Employing a Proxy. Base your strategy on general 2-3 element formulae (such as averages, demand, and supply).

General Method (2/2)

Step 3

Break down the problem
Once you identify the constraints you must work under, break down the problem into smaller pieces (a MECE approach of-course). Do keep in mind the following factors while breaking it down into pieces — Population, Income split, Age split, Gender, and Rural-Urban split.

Step 4

Perform Math & Sanity Checks
Estimate each piece separately and multiply them to get the overall estimate. Perform sanity checks mentally wherever there is "sensitive data" and suggest sanity checks on your own to the interviewer. Making sure your answer is realistic shows that you are methodical in your approach.

Solved Examples

Problem Statement 1

Estimate the number of routers sold in India in a year.

Clarifying Questions

1. Should I consider the impact of the COVID-19 pandemic, or is scenario one during the pre-COVID times? *(Consider post-pandemic times)*
2. By router, do you mean the traditional router where I should also include a modem that comes with it or the modern one which does both the work of a router and a modem? *(Consider both)*

Notes

1. Always proceed with caution and be mentally aware of what you are doing.

2. Think of an overall strategy (You could try thinking of supply/demand/geography demographics, but these approaches involve too many variables). So, we will proceed by considering the end user demographic, i.e. residential and commercial users.

3. Since we have talked about COVID-19 and its impact, we must necessarily include the growth of the Internet over the years (be it post-COVID or pre-COVID), bringing in new users.

4. We must now consider approaches to solve both the pieces (Residential and Commercial components) by breaking them down further.

5. We must also factor in the lifetime of a router and the replenishment rate.

6. Keeping in mind all the above points, we now base our guesstimate on the following two formulae:

   1. Number of existing routers $= \dfrac{\text{Number of users}}{\text{Average number of people using a router}}$

   2. Number of new routers added $=$ Market Growth $+$ Routers Replaced

$$= (\text{Number of existing routers} \times \text{Growth rate}) + \dfrac{\text{Number of existing routers}}{\text{Lifetime}}$$

Considerations

1. Internet growth during the pre-COVID times was around 4%, and that during post-COVID times was about 10%.
2. The percentage of users who have access to the internet in India pre-COVID was 40%, and post-COVID was around 50%.
3. The workforce of India is around 35% of its population, and the percentage of people working in unorganised and other blue-collar jobs is about 80%. India's population can be considered to be 1.40 billion.
4. The average lifetime of a router is five years.

Structure
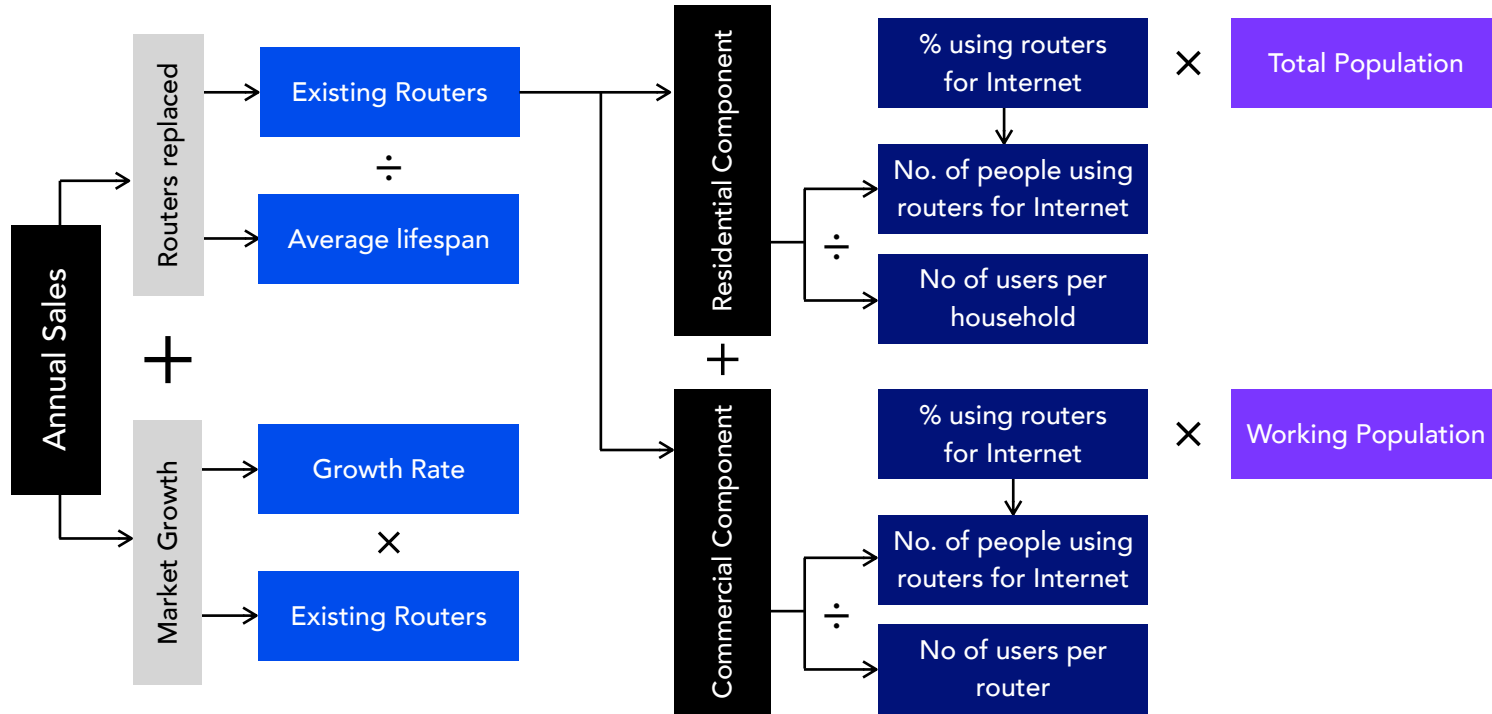
Calculations

Residential Component

Population having access to internet
= 50% = 700 million

20% of 700 million rely on routers
= 140 million

Apply Formula 1 → say if 5 people
share a router →
Number of existing routers
= 140/5 = 28 million

Apply Formula 2 →
Number of New Routers
= (28 x Growth rate) + (28 / Lifetime)
= (28 x 0.1) + (28 / 5) = 8.4 million

Commercial Component

Working population of India = 35%
= 500 million

People working in White and Grey
Collar Jobs = 20% = 100 million

No. of people with access to router =
70% of 100 million = 70 million

Apply Formula 1 → say if 10 people
share a router →
Number of existing routers
= 70/10 = 7 million

Apply Formula 2 →
Number of New Routers
= (7 x Growth rate) + (7 / Lifetime) =
(7 x 0.1) + (7 / 5) = 1.9 million

Total number of routers
sold in India every year

= Residential Component +
Commercial Component

= 8.4 + 1.9
= 10.3 million
~ 10 million

Problem Statement 2

What is the market size of sofas in India?

Clarifying Questions

1. Does market size refer to volume or value? *(Consider the value of sofas sold in a year)*
2. Are single-seated armchairs included here? *(By definition, no.)*
3. Sofas sold or produced? *(Consider only the sofas sold in India.)*

Considerations

1. Sofas are, of course, needed in homes. Other possible uses are – in offices, airports, lounges, cafeterias, and hotels. Since India has many households, the lion's share of sofas is for residential purposes. *(An adjustment may be applied to the final answer to account for the rest of the possible users – say 30%).*

2. Since the problem requires the value of sofas *sold* in a year, it is helpful to assume that there is no bottleneck in supply. Thus, an approach from the demand side would be the most useful.

3. Consider the population of India as 1.4 billion and an average of 5 people per household.
4. Higher-income households may have more than one sofa. On average, assume two sofas per household.
5. **Penetration Rate:** Consider the 30:70 split of urban and rural populations in India. Let's say this applies to families too. Assume 30% of urban and 1% of rural households have sofas. This amounts to approximately 10% penetration.
6. Assume sofas get replaced every ten years on average. Assume the sofa market grows parallel to population growth. Thus, 1% market growth.
7. Standard sofas may cost INR 20k, with a 75% market volume. Premium sofas may cost five times as much.

Structure
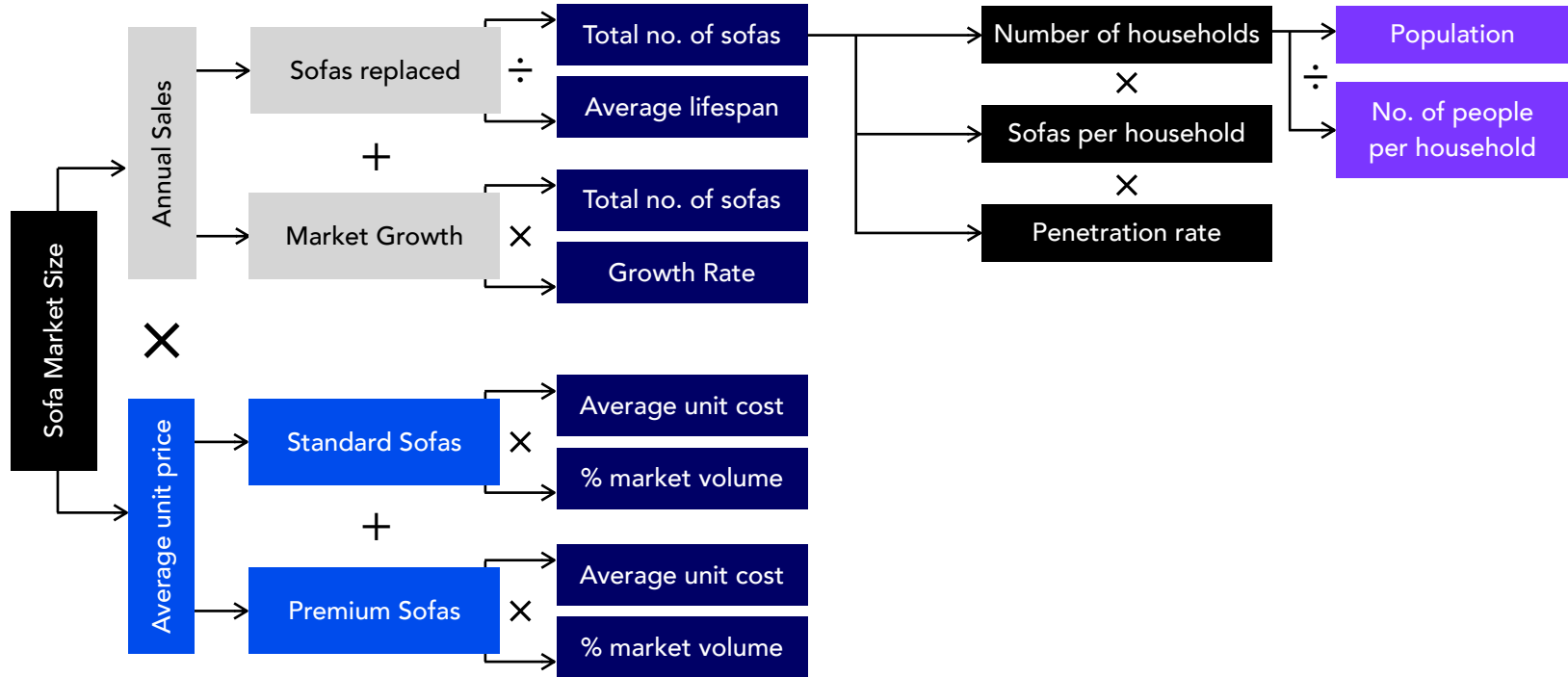
Calculations
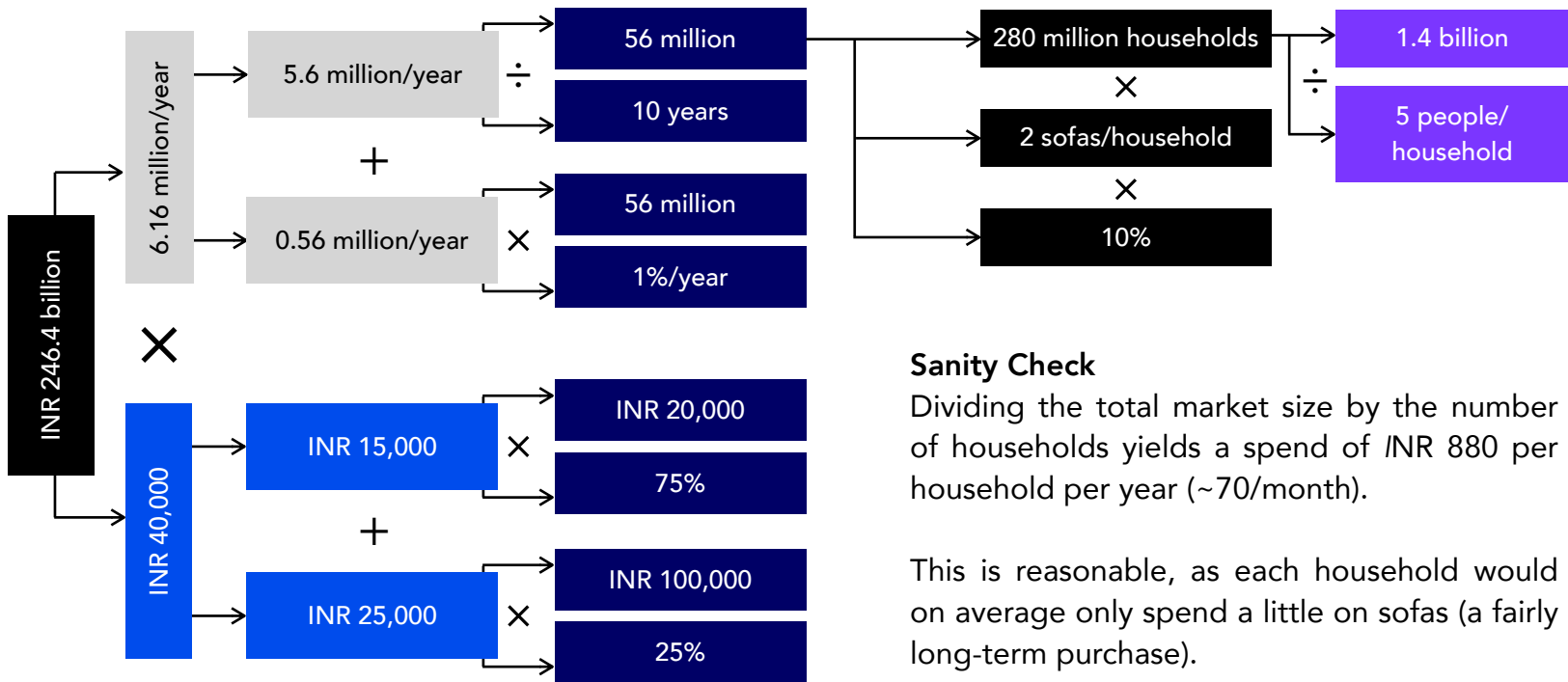
Sanity Check

Dividing the total market size by the number of households yields a spend of *I*NR 880 per household per year (~70/month).

This is reasonable, as each household would on average only spend a little on sofas (a fairly long-term purchase).

Previous Year Guesstimates

McKinsey & Company	Bain & Company
1. Estimate the colored TV sales for Flipkart during Diwali season (in India). 2. Estimate toll collection outside Bangalore airport (in a week on average). 3. Estimate the annual logistics cost for Flipkart (in India). 4. Estimate the annual budget required for textbooks for students in Karnataka. 5. How much change would you find on the floor of an average mall (today)? 6. How many second hand wedding dresses are sold in the UK each year?	1. Guesstimate the number of laptops in working condition in Delhi right now. 2. Calculate the number of watches that people currently own in Delhi region alone. 3. How many cups of tea are sold in all of India every week? 4. Estimate the number of flying cars that would be sold in 2025! 5. Estimate the annual budget required for textbooks for students in Karnataka. 6. How many penguins can live in Antarctica?

Previous Year Guesstimates - Contd.

Boston Consulting Group	Oliver Wyman / Marsh McLennan / Mercer
1. Estimate the size of the e-pharmacy market in India. 2. How many Mazda dealers are there in the US? 3. Estimate the size of chewing gum market in the US. 4. Describe how to measure the average time taken in a queue at an airport check-in counter. 5. Estimate the size of the quick commerce market in India. 6. How many hotel-sized mini bottles of shampoo and conditioner are produced each year around the world? 7. How many people in Uganda have no access to Electricity? 8. How many pay-phones are there on the Island of Manhattan?	1. How many miles of road are there in the US? 2. How many people are travelling in an aeroplane in the UK right now? 3. How much gasoline does a gas station sell per day? 4. How many songs are stored on iPods in the UK? 5. How many words are there in the daily edition of The Times? 6. Are there two dogs in the world with the same number of hairs? (**Answer:** The probability is $p(n) = 1 - \dfrac{h!}{h^n(h-n)}$ if $n \leq h$ and 1 otherwise for 'n' number of dogs and maximum combination of hairs 'h'.) 7. How many spikes does a hedgehog have? 8. How many taxicabs are there in New York City?

Previous Year Guesstimates - Contd.

The Big Four (Deloitte, PwC, EY, KPMG)

1. How many medium-size industries are there in Mumbai? (Deloitte)
2. How much packets of noodles are consumed in a month at a college campus? (Deloitte)
3. How many people smoke cigarettes in Hyderabad? (Deloitte)
4. Estimate the number of people who have ever lived on earth. (Deloitte)
5. Estimate the number of flights taking off in a day from Delhi Airport. (Deloitte)
6. Estimate the number of Maggi packets sold on the first day of relaunch (Deloitte)
7. How many gallons of ice cream are sold in the US every year? (PwC)
8. What is the market size of lighting fixtures in Middle-East? (PwC)
9. Calculate the capacity of a second airport at New Delhi. (PwC)
10. How many streetlights are there in New York City? (PwC)
11. What is market size of hand knitting yarn in the US? (EY)
12. How much kilograms of canned fruit is sold by Del Monte Foods in the US? (EY)
13. How much it will cost the Bank of New York Mellon to overhaul its IT System? (EY)
14. How many pennies are in a shopping mall? (KPMG)
15. Estimate the average revenue of DTC buses in a day. (KPMG)
16. How much will my monthly phone bill amount to in the next five years? (KPMG)

Previous Year Guesstimates - Contd.

Accenture	ZS Associates
1. How many basketballs are purchased by the NBA every year? 2. How much to pay for the world's only Dinosaur? 3. Estimate the number of customers Flipkart gained due to the Big Billion Days sale. 4. Estimate the number of dry cleaners in the city of Philadelphia. 5. How many airplanes flying the opposite route will you pass on the journey from John F Kennedy Airport to Los Angeles Airport? The flight takes five hours and you leave at 12:00 PM EST. 6. How much money could Continental Airlines save by giving customers 1/2 a can instead of a whole can of Sprite?	1. Estimate the size of diaper market in India. 2. Estimate the number of traffic lights in Patiala. 3. How many kilograms of chicken is sold in your city per annum? 4. How many cricket bats are produced in India annually? 5. What is the number of mobile phones used in the world? 6. What is the market size of blue car in your native city? 7. How many cricket balls will fit into a Boeing 747? 8. Estimate the revenues of any outlet of Haldirams in 1 day. 9. Estimate the number of ATM machines in Delhi.

Previous Year Guesstimates - Contd.

Software Companies

1. How many beer bottles are in circulation in the U.S.? (IBM GBS)
2. In the United States, how many people are in the air right now? (IBM)
3. How many golf balls can fit into a school bus? (Google)
4. How many dogs are there in the United States? (Google)
5. What is the annual demand for sugar in the US? (Applied Predictive Technologies)
6. Can you guess the size of the grocery market in India? (Flipkart)

Other Companies

1. If I were to fill this room with pennies, how many pennies would fit in?
2. How many piercings are done in India annually? (Capgemini)
3. What is the size of the market for disposable diapers in China?
4. How many Delta Airlines planes will take off in the next hour in United States?
5. How many gas stations are in North America?
6. How to estimate ExxonMobil's revenues from gasoline sales? (AlixPartners)
7. Estimate the annual revenue of Tropicana's orange juice division in the US?
8. How many fish are there in all the world's seas. (CapitalOne)

Consulting Tools

SWOT Analysis

Overview — SWOT Analysis

SWOT is a great tool to capture the current state of your organisation; it helps set objectives for strategic planning and identify the firm's core competencies. It analyses whether or not to embark on a strategy.
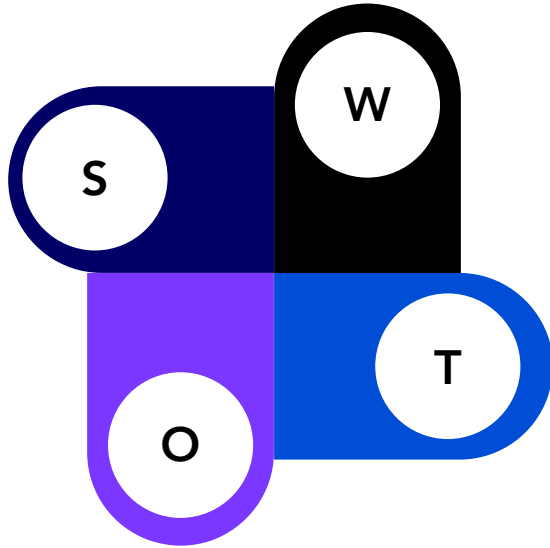
	Strengths	Weaknesses
Internal	Strengths	Weaknesses
External	Opportunities	Threats
	Helpful	Harmful

Tips and Tricks (1/2)

Strengths	Weaknesses
1. What is our competitive advantage? 2. What resources do we have? 3. What products are performing well?	1. Where can we improve? 2. What products are underperforming? 3. Where are we lacking resources?

Opportunities	Threats
1. What technology can we use to improve operations? 2. Can we expand our core operations? 3. What new market segments can we explore?	1. What new regulations can threaten the operations? 2. What do our competitors do well? 3. What consumer trends threaten business?

Tips and Tricks (2/2)

Internal Factors	Weaknesses
1. Aspects of the company which it does/ does not do well at. 2. Qualities that make the company better/ worse than its competitors. 3. Assets/liabilities that the company holds (including financial, physical and human). 4. A USP.	1. Market scenario and the relevance of the product being sold . 2. Press/Media coverage of the brand. 3. Customer satisfaction/dissatisfaction 4. Changing trends and customer behaviour.

Practice Problem

Perform a SWOT Analysis on **Apple, Inc.** Refer to the solved example given on the next page.

Solved Example — SWOT Analysis on Unilever

Strengths	Weaknesses
1. High brand awareness 2. Caters to a diverse set of users 3. A wide range of products 4. A strong 4-tier distribution system	1. Most products are imitable i.e. no clear USP. 2. Stagnation of businesses due to marketing myopia*
Opportunities	**Threats**
1. Venturing into health conscious and ayurvedic products whose demand is increasing 2. Strengthening the brand using M&A	1. Competition from companies with specific products 2. Increasing FDI in retail resulting in increased competition from international brands

* This refers to a lack of foresightedness in marketing strategies and overemphasising sales.

PESTEL Analysis

Overview — PESTEL Analysis

Factors such as government policy, political stability, tax policy, labour law, foreign trade policy.

Factors like economic growth, interest rates, inflation, exchange rates, employment rates, and purchasing power.

Factors like demographics, culture, lifestyle, age distribution, and career attitudes.

POLITICAL

TECHNOLOGICAL

ECONOMIC

ENVIRONMENTAL

SOCIAL

LEGAL

Factors like digital transformation, automation, R&D, innovation, and technological awareness.

Include climate change, recycling procedures, carbon footprint, waste disposal, sustainability and net-zero targets.

Factors such as employment legislation, consumer laws, health and safety, trade regulations, copyrights and patents

What is PESTEL Analysis?

PESTEL Analysis is a tool that analyses the **external environment** of an organisation or business.

When is it best of use?

- It is useful when entering a new market or starting a new business.
- PESTEL Analysis helps us identify the EXTERNAL factors that affect a company or organisation.
- These factors affect your business and operations, but the effect cannot be seen the other way round. These are generally climate, industry trends, inflation, etc.
- The company has no say on these factors. But conducting a PESTEL Analysis on them gives us a better insight into the industry.

Solved Example — PESTEL Analysis on DELL

Political Factors

1. Has to follow tax regulations and trade tariff.
2. Have to consider political stability and relations between countries as to not to impact the supply of raw materials and semi finished goods carried for assembly.

Economic Factors

1. Products are generally expensive.
2. Have to consider import rates, exercise duty and exchange rates as they can spike up the cost of products.

Social Factors

1. Increasing popularity of gaming and esports in major markets.
2. Pandemic increased the demand for laptops.
3. Decreasing popularity for the brand among younger age groups.

Environmental Factors

1. Need to recycle e-waste properly
2. Increasing pressure to adopt greener technology
3. Leaving Carbon footprints is a concern

Technological Factors

1. Technology is continuously developing, requiring companies to release products frequently.
2. Strong competition from brands offering cheaper prices.

Legal Factors

1. Need to follow labor and employee safety laws.
2. DELL needs to follow taxation laws in the operating markets to avoid penalties.

Porter's Five Forces Analysis

Overview — Porter's Five Forces

The Five Forces determine the competitive structure of an industry and its profitability. Industry structure and a company's relative position within the industry are the two fundamental drivers of profitability.

1. Understand your industry of interest.
2. Identify attractive vs less attractive industries/markets.
3. Identify opportunities and risks.
4. How profits within an industry will be distributed
5. Extrapolate industry trends & anticipate changing trends.

Bargaining Power of Buyers

Bargaining Power of Suppliers

Threat of New Entrants

Threat of Substitutes

Rivalry among established competitors
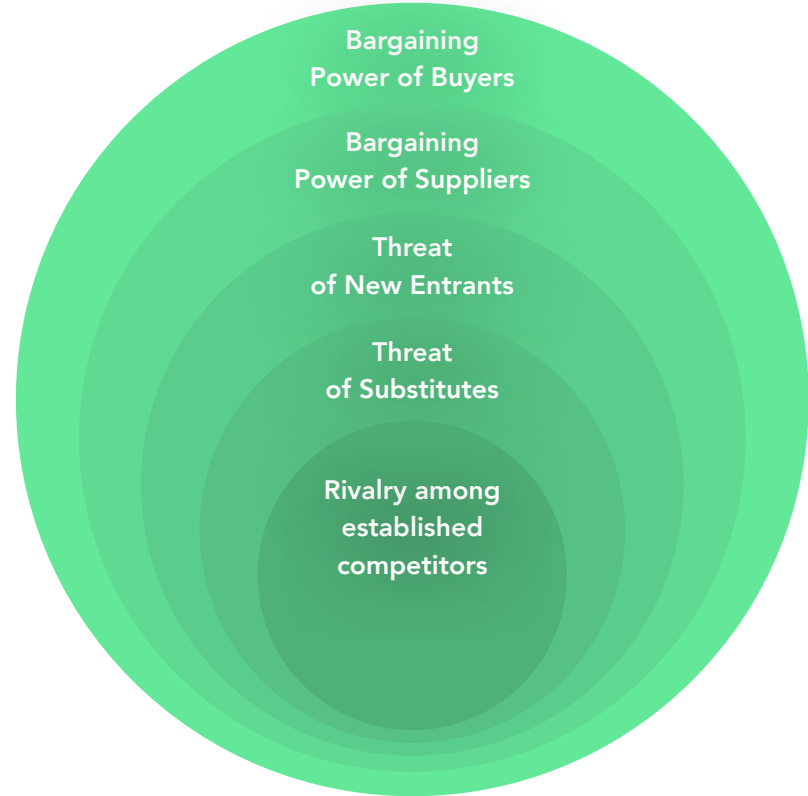
Porter's Five Forces — Explained

Bargaining Power of Buyers
Price sensitivity, Number of Customers, Buyer's ability to substitute, Size of each customer order, Buyer's information, Difference between competitors.

Threat of Substitutes
Number of substitutes, Buyer propensity to substitute, Relative price performance of substitute, Perceived level of product differentiation, Switching costs

Bargaining Power of Suppliers
Number and size of suppliers, Uniqueness of each supplier's product, Ability to substitute

Rivalry among competitors
Industry growth, Quality differences, Brand loyalty, Barriers to exit, Number of competitors, Diversity of competitors

Threat of New Entrants
Switching costs, Barriers to entry, Capital requirements, Cumulative experience, Access to distribution channels.

Tips and Tricks

1. Use this model where there are at least three competitors in the market.
2. Consider the impact that government has or may have on the industry.
3. Consider the industry lifecycle stage-earlier stages will be more turbulent.
4. Consider the dynamic/changing characteristics of the industry.
5. Avoid using this model for an individual firm; it is designed for use on an industry basis.

BCG Growth-Share Matrix

Overview — BCG Growth-Share Matrix

The BCG Growth-Share Matrix is a portfolio management framework developed by the Boston Consulting Group (BCG) to assist a company and show where to invest its capital to benefit the most.

The four quadrant matrix has two axes — Growth and Relative Market Share. In simpler terms, growth is the increase or decrease of demand in the market, and relative market share is how well the product is doing in the market compared to the highest competitor. Now, high or low Growth/Relative Market Share can be classified into four categories: Star, Question Mark, Cash Cow, and Pet/Dog.

Market Share

	High	Low
High	★ **Star**	**?** **Question Mark**
Low	**Cash Cow**	**Dog/ Pet**
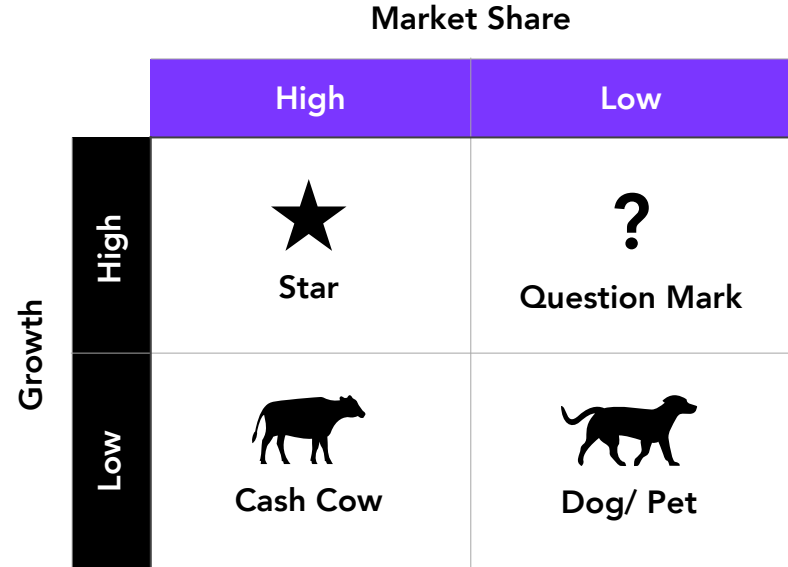
Growth

BCG Growth-Share Matrix — Explained

- High Market Growth and High Market Share products are known as Stars, meaning the product is excelling and has much demand in the market, so it is worth continuing to invest capital in this product.

- Low Market Growth and High Market Share products are known as Cash Cows, meaning the demand is low, but the product is performing well, i.e., for less capital, there is higher profit.

- High Market Growth and Low Market Share products are known as Question Marks, which means the product is not performing well, but the product's demand is increasing in the market, and then the product needs to be improved because it has good potential.

- Low Market Growth and Low Market Share products are known as Pets or Dogs, which means the product is not performing well and demand for the product in the market is declining, so it is better to avoid investing more capital in this product.

- In conclusion, profit can be milked from Cash Cows and invested back on Stars or Question Marks to maximise the success of the company's products.

Solved Example 1 — Growth-Share Matrix of Air India

The airline industry is booming. However, all services of Air India except its cargo flight service have shrunk to a minor portion of the market. Hence, the cargo services of Air India can be considered a star, while others will fall under question marks.

Solved Example 2 — Growth-Share Matrix of Amul

Stars: Amul Ice creams, Lassi and Amul Kool are well known and have a growing market.

Cash Cows: Amul Milk is one of the most popular milk brands. Amul Ghee and Butter have significant market share but low market growth.

Question Marks: Amul bread is a new product with a huge possible market. Amul Pizza Base also has a growing demand.

Dogs: Amul Frozen Pizza is not a much-desired product due to better alternatives. Amul Cookies is also another such product.

GE-McKinsey Nine-Box Matrix

Overview — GE-McKinsey Nine-Box Matrix
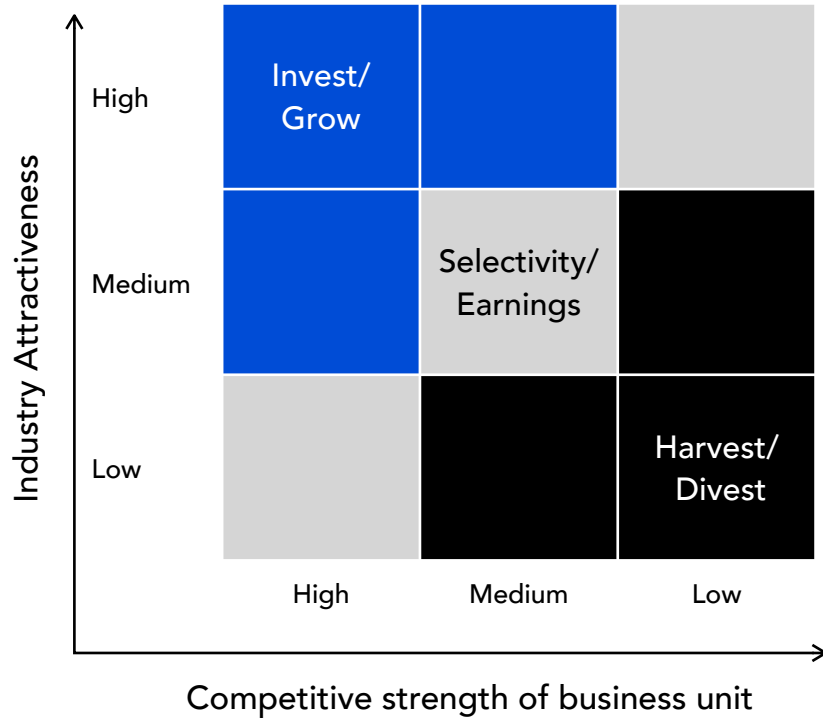
The GE-McKinsey nine-box matrix is a strategic tool used by multi-business corporations to prioritise investments among their business units. McKinsey developed it in the early 1970s, and it is conceptually similar to BCG's Growth-Share Matrix — but more complicated.

The business units (BUs) are evaluated and assigned a position on the matrix following a quantitative assessment of —

(vi) the **industry attractiveness**, and

(vii) the **competitive strength** of the business unit.

Industry Attractiveness

Industry attractiveness measures the ease of doing business in a market and generating profits in the long run. It is determined by factors such as:

1. Market growth rate (both short-term and long-term)
2. Size of the industry
3. Industry Structure (using Structure-Conduct-Performance Model)
4. Industry Profitability (using Porter's Five Forces Analysis)
5. Macro-environmental factors (using PESTEL)

Competitive Strength of Business Unit

Factors used to determine business unit strength or sustainable competitive advantage include:

1. Market share and growth in market share
2. Brand Equity
3. Production capacity, Resources, Capabilities (using VRIO)
4. Value Chain Strength (using Value Chain Analysis and Benchmarking)

After assigning the weight (indicating importance) to each factor, the industry attractiveness score and business unit strength score are calculated using the formula given below:

$$\text{Score} = \sum_{i=1}^{N} \text{factor value}_i \times \text{factor weight}_i$$

The scores are then categorised as high, medium or low, and the business unit is plotted on the matrix. Recommendations can be made to grow, hold, or harvest a unit as discussed below:

Invest/ Grow	Selectivity/ Earnings	Harvest/ Divest
Applicable to BUs operating in a moderate to highly attractive industry with a medium to a high competitive advantage.	These BUs have low to moderate competitive position in an attractive industry or very high competitive position in a less attractive industry.	Applicable to BUs having low competitive advantage, operating in an unattractive industry or a combination of both.
Provide as much resources as the business unit needs regardless of whether it can generate itself or not.	Invest only if there is money left over investments in invest/grow business units or if they can generate cash in future.	Invest just enough to keep the units operational or divest the units by selling it to a prospective buyer.

Balanced Scorecard

Overview — Balanced Scorecard

A balanced scorecard identifies and improves various internal business functions and their resulting external outcomes.

The balanced scorecard puts vision and strategy at the centre and isolates four aspects of an organisation for analysing — **Learning and Growth, Finance, Internal Processes, and Customer**.

Vital information is gathered from four business areas — strategic **objectives, KPIs, targets and initiatives/practices**.

Learning & Growth Perspective

Financial Perspective

Vision and Strategy

Customer Perspective

Internal Business Perspective
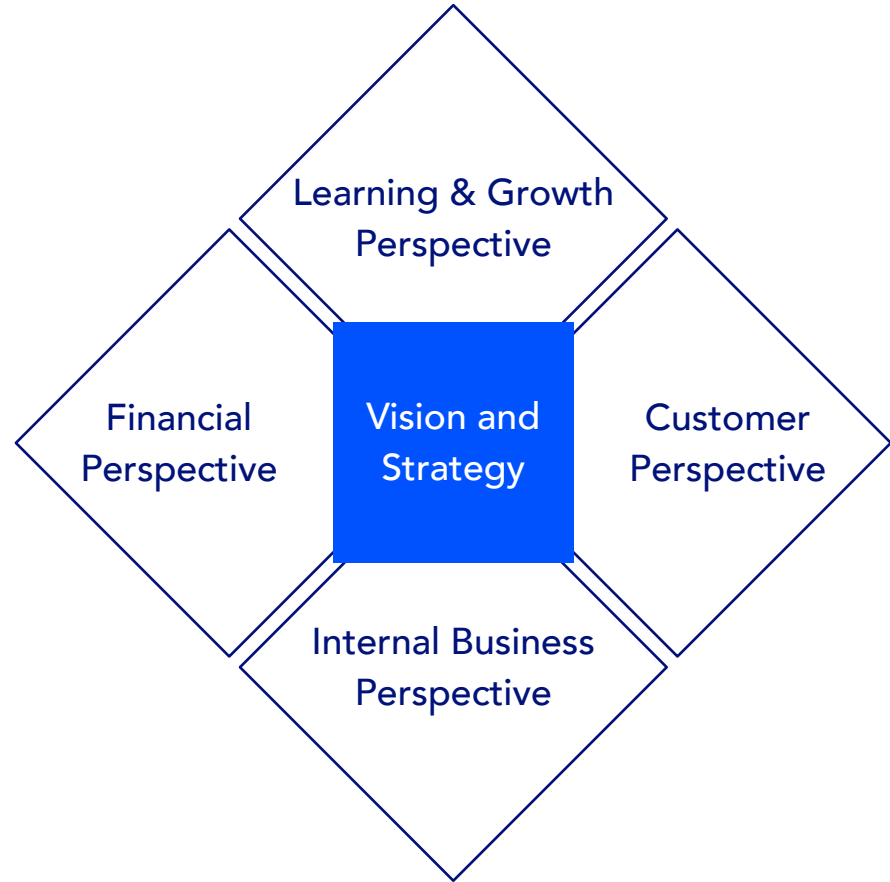
Four Perspectives of a Balanced Scorecard — Explained

1. **Learning and Growth Perspective**	Determines the company's ability to improve and adapt to change
2. **Financial Perspective**	Analyses the company's ability to pay dividends, manage risks involved and better appeal to shareholders.
3. **Customer Perspective**	Determines the level of customer satisfaction with the company's products and services and how it provides value to its customers
4. **Internal Business Perspective**	Evaluates the company's products and services and how well it runs.

Some books also mention the **Learning and Growth Perspective** as the **Organisational Capacity Perspective**.

The third-generation balanced scorecard features a strategic linkage model connecting the dots between the objectives and a vision statement representing the result of implementing the initiatives listed in the scorecard. **[click here]**

Solved Example — Balanced Scorecard of JCPenney

✍🏻 Note that the targets mentioned here are representative in nature. Actual values may vary.

	Objectives	KPIs	Targets	Initiatives
1. Learning and Growth Perspective	1. Optimise Supply Chain 2. Reduce Employee Turnover Rate 3. Improve Employee Skills	1. Supply Chain Efficiency Index 2. Turnover Rate 3. Training Index	1. Achieve 95% efficiency 2. Reduce by 5% 3. Achieve 85% efficiency	1. Sign long-term agreements 2. Increase job rotation 3. Start upskilling programmes
2. Financial Perspective	1. Increase Return on Investment 2. Reduce Operating Costs 3. Increase Revenue	1. ROI 2. Operating Costs 3. Revenue	1. Increase by 8% over two years 2. Reduce by 3% per year 3. Increase by 15% per year	1. Bulk purchases to achieve EoS 2. New billing system 3. Competitive Pricing Options

	Objectives	KPIs	Targets	Initiatives
3. Customer Perspective	1. Improve Customer Satisfaction 2. Reduce Waiting Times 3. Increase Customer Size	1. CSAT Score 2. Average Waiting Time 3. New Visitors (Monthly)	1. Achieve 85% CSAT Score 2. Reduce by 15% 3. Increase by 6% every quarter	1. Provide more choices at stores 2. Improved billing system 3. Offer incentives and coupons
4. Internal Business Perspective	1. Improve Cost Control 2. Reduce Process Cycle Times 3. Ensure supply-demand balance	1. Cost Efficiency Index 2. Average Cycle Time 3. Fill rate	1. Achieve 92% efficiency 2. Reduce by 15% 3. Achieve 98% efficiency	1. Buy raw materials in bulk 2. Increase automation 3. Use AI-enabled WMS and IMS

Practice Problem

Create a balanced scorecard of the **Starbucks Corporation**.

Value Chain Analysis

What is a value chain?

A value chain refers to all the business activities a firm undertakes to create a product from start to finish (e.g., design, production, distribution, and so on).

What do you mean by a value chain analysis?

Value chain analysis is a strategic process where a firm evaluates its internal activities to identify how each contributes to the firm's competitive, cost and differentiation advantage. Its primary objective is to give businesses a visual model of these activities, allowing them to determine where they can reduce costs.

Porter's model is most commonly used for this purpose, considering several primary and support activities. The overall process is completed in five steps.

We'll now give you an overview of Porter's Value Chain Model.

Overview —- Porter's Value Chain
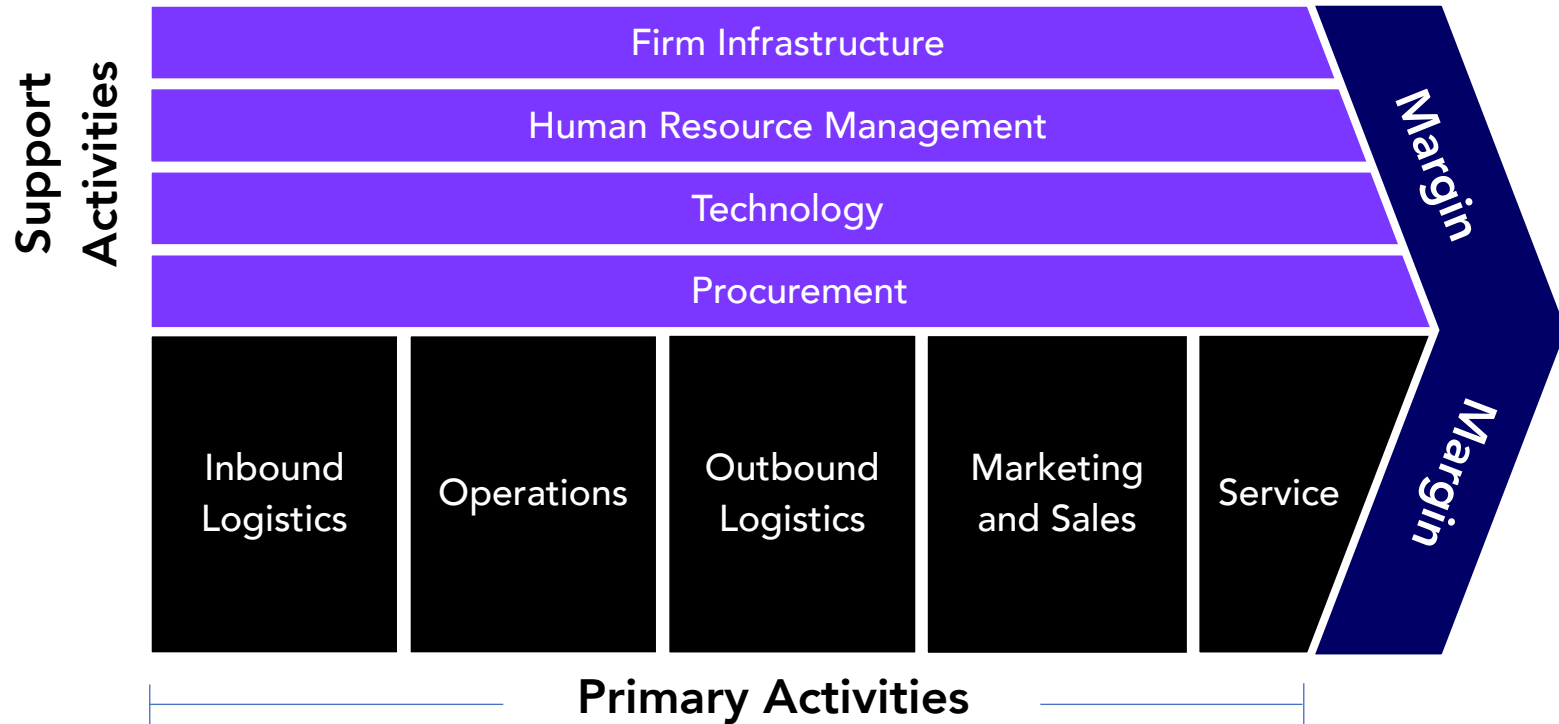
Primary Activities vs Support Activities

Primary Activities

Inbound Logistics

Getting raw materials from suppliers

Operations

Manufacturing of the product

Outbound Logistics

Involves storage and movement of products to the end user

Marketing & Sales

Strategies to enhance visibility of product among the target audience

Service

Customer support for the product, warranty etc.

Support Activities

Firm Infrastructure

The management, financial and legal systems incorporated in the business

Human Resource Management

Managing employees and fresh recruitments

Technology

Innovation through R&D to enhance efficiency and profit

Procurement

Sourcing from suppliers for the best quality possible

Steps of Value Chain Analysis

1. Determining the business' primary and support activities	The primary and support activities include each action required in developing a product or service, from raw material to final product.
2. Analysing the value and cost of the activities	This involves identifying how each activity provides value to customers and the business as a whole, including checking for the competitive advantage (based on cost leadership or differentiation).
3. Referring to competitors' value chains	Use relevant metrics to compare your company to competitors. This practice is called competitive benchmarking.
4. Understanding a firm's customer base's perception of value	Conducting customer surveys, digging into any qualitative or quantitative data that can be pieced together, etc., to understand what its target market thinks of it.
5. Identifying opportunities to gain a competitive advantage	Undertaking minor changes at the beginning that provides high-impact results. After the easy wins are identified and actioned, the more significant challenges hindering efficiency must be tacked.

Solved Example 1 — Value Chain Analysis of Samsung

Primary Activities

Inbound Logistics

579 suppliers globally. Owns several logistics firms as its subsidiaries.

Operations

Corporate business model. In-house manufacturing.

Outbound Logistics

Integrated logistics subsidiaries, SELC & Samsung SDC transport and distribute finished products.

Marketing & Sales

Print and media advertising, public relations programs. 53 international sales bases.

Service

Regular customer satisfaction surveys, Samsung Direct Support.

Support Activities

Firm Infrastructure

Well executed financial support system and corporate governance.

Human Resource Management

Regular training and critical resources to employees. Competitive salaries and added benefits

Technology

Heavy investment in R&D (more than 20 trillion KRW)

Procurement

2400+ suppliers globally. International Procurement Centre manages supplier relationships

Solved Example 2 — Value Chain Analysis of Nike

Primary Activities

Inbound Logistics
Supply chain based on outsourcing and diversification.

Operations
600 factories and 1048 retail stores worldwide.

Outbound Logistics
Selling products to wholesalers, D2C sales through retail outlets and own website.

Marketing & Sales
Print and media advertising, promo events and promotion through celebrities.

Service
Excellent pre-sale and after sales services, special store hours, store-to-door services.

Support Activities

Firm Infrastructure
High focus on quality management, efficient legal matter handling, state-of-the-art offices, procurement facilities and distribution outlets.

Human Resource Management
Promotes a work culture based on diversity and inclusion.

Technology
Integration of AR technology into stores, Reuse of wastes generated in Nike factories.

Procurement
A global procurement team manages the procurement process to ensure supply of high quality raw materials.

Benchmarking

Overview — Benchmarking

Benchmarking involves comparing a company's metrics with that of industry competitors (often industry leaders) or to those of innovative companies in related industries.

This strategic tool aims to identify the industry's best practices and incorporate similar activities into other companies.

In some cases, comparisons can be made internally between operations of businesses owned by the same firm.

Benchmarking Processes

1. Determine the focus areas
2. Identify KPIs and competitors
3. Collect external and internal data
4. Compare data and analyse differences
5. Find opportunities of improvement
6. Implement best practices and adapt
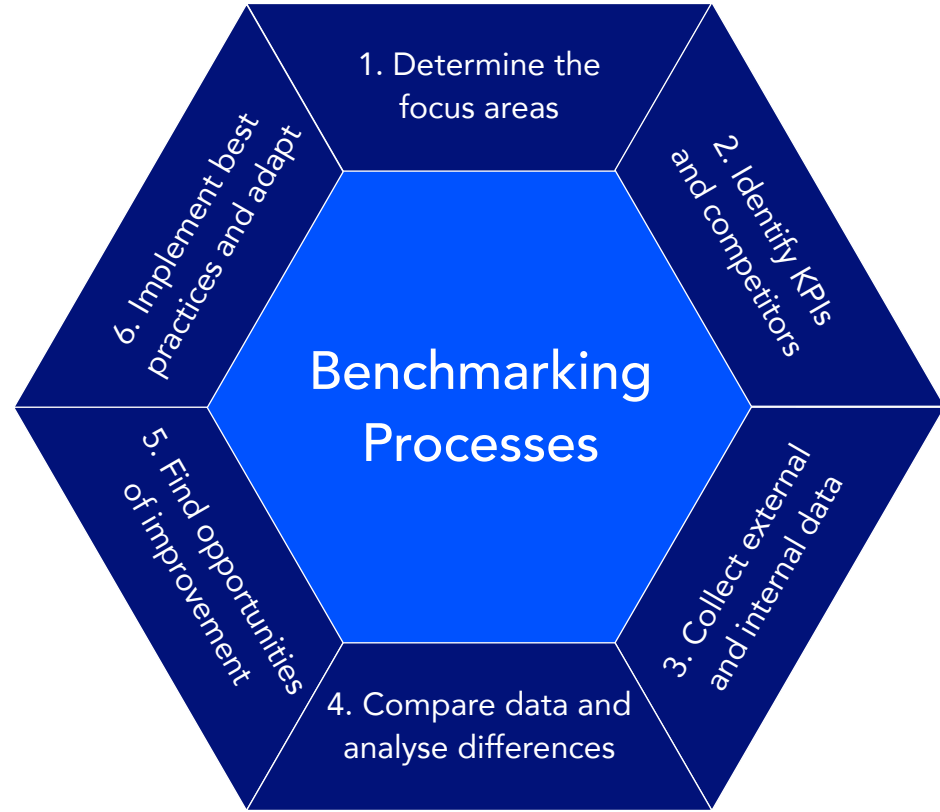
Benchmarking Processes — Explained

1. **Determining the focus areas**	In the first step, the problem areas are identified. Usually, these are business operations with scope for improvement.
2. **Identifying KPIs and competitors to compare data**	The next step is to decide on the performance metrics for benchmarking. Companies operating within the industry or internal areas with better performance rates are chosen to compare data.
3. **Collecting external and internal data**	Now, data is collected on performance and company practices. In most cases, the data collected includes revenues, profit margins, production costs, process cycle times, etc.
4. **Comparing data and analysing differences**	The two sets of metrics are compared side-by-side and the gaps are identified. The relevance of these differences is analysed.
5. **Finding opportunities of improvement**	The competitor's best practices are identified, and an action plan is formulated.
6. **Implement best practices and adapt**	Finally, companies can incorporate these best practices after tweaking them to their needs. Benchmarking should be repeated at regular intervals to track metrics changes or adapt to other changes.

Solved Example on Benchmarking — Logistics Sector

Problem Statement

Attoship is a global logistics company that provides package delivery services. The company saw flattening revenue growth during H2-2021, while the worldwide market experienced growth of 12% during the same time. Recommend a strategy to increase revenues by 15% in a year.

Approach

1. The primary step is to find all **operations/processes that add value to the supply chain** (warehousing, transportation, distribution, value-added services, packaging).
2. The next step is to identify the performance metrics — in this case, **on-time performance, package costs, employee turnover rate, customer satisfaction rate and storage cost per product shipped**.
3. A competitor, preferably the market leader (e.g. DHL), can now be chosen to compare data.
4. After relevant data is collected, the **differences can be analysed,** and an **action plan can be suggested**.

Task Environment

Overview — Task Environment

```
        ┌─────────────────────────┐
        │  Business Environment   │
        └─────────────────────────┘
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Business Environment

Internal Environment

External Environment

Macro-environment

**Micro-environment/
Task Environment**
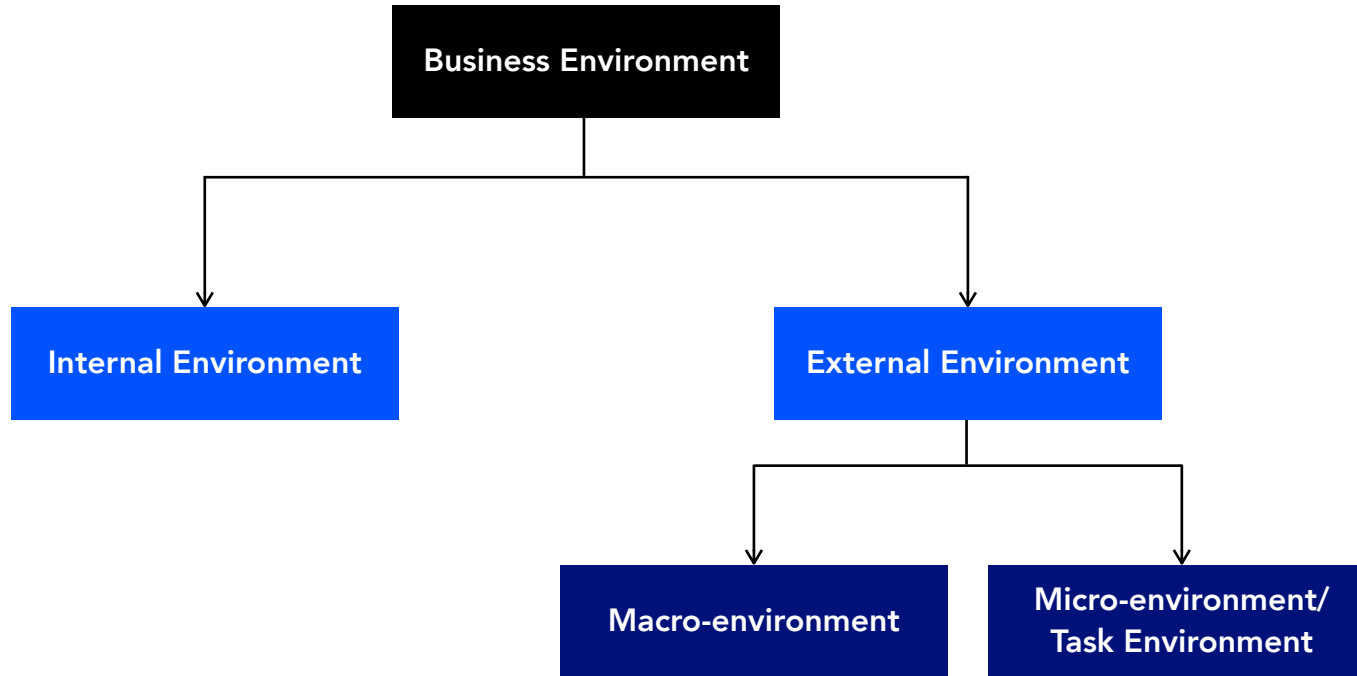
Business Environment: The aggregate of all the forces, factors and institutions which are external to and beyond the control of an individual business enterprise but significantly influence the enterprise's functioning and growth.

Internal Environment: Several elements inside an organisation act as strengths and may also become a reason for weaknesses of the organisation. These internal factors have an impact on organisational decisions.

External Environment: This includes factors existing outside the business enterprise that offer opportunities and create threats for the business. These include factors such as economic, socio-cultural, legal, demographic etc. These factors are beyond the control of the company. There are two types of external environments — **macro** and **micro**.

The **macro-environment** refers to the broader condition of an economy as opposed to specific markets. It consists of **demographics, economic, natural, technological and political factors**.

The **micro-environment** includes many factors in the company's immediate environment and has a bearing on the company's performance. These can be **suppliers, customers, competitors and labour**.

The **micro-environment** is also referred to as the **Task Environment**.

Suppliers Customers Competitors Labour	*Forces that affect an organisation in achieving its business goals.* →	Task Environment
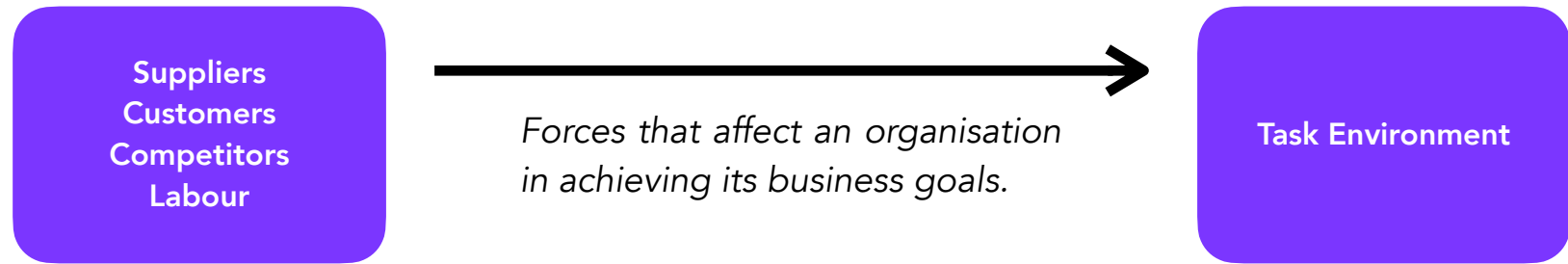
The task environment of an organisation is the environment which directly affects the organisation in attaining business goals. These can be analysed better using Porter's 5 Forces Analysis.

Structure–Conduct–Performance Paradigm

Overview — SCP Paradigm

The structure-conduct-performance (SCP) paradigm states that market structure would determine firm conduct, which, in turn, would determine performance.

Structure

Measured by
- Number of Competitors
- Heterogeneity of product
- Supply-Demand Match
- Cost of Entry and Exit

Measured by
- Pricing
- Tacit collusion
- Product Differentiation
- Market Power

Conduct

Performance

Measured by
- Productive efficiency
- Profitability
- Product Quality
- Resource Allocation
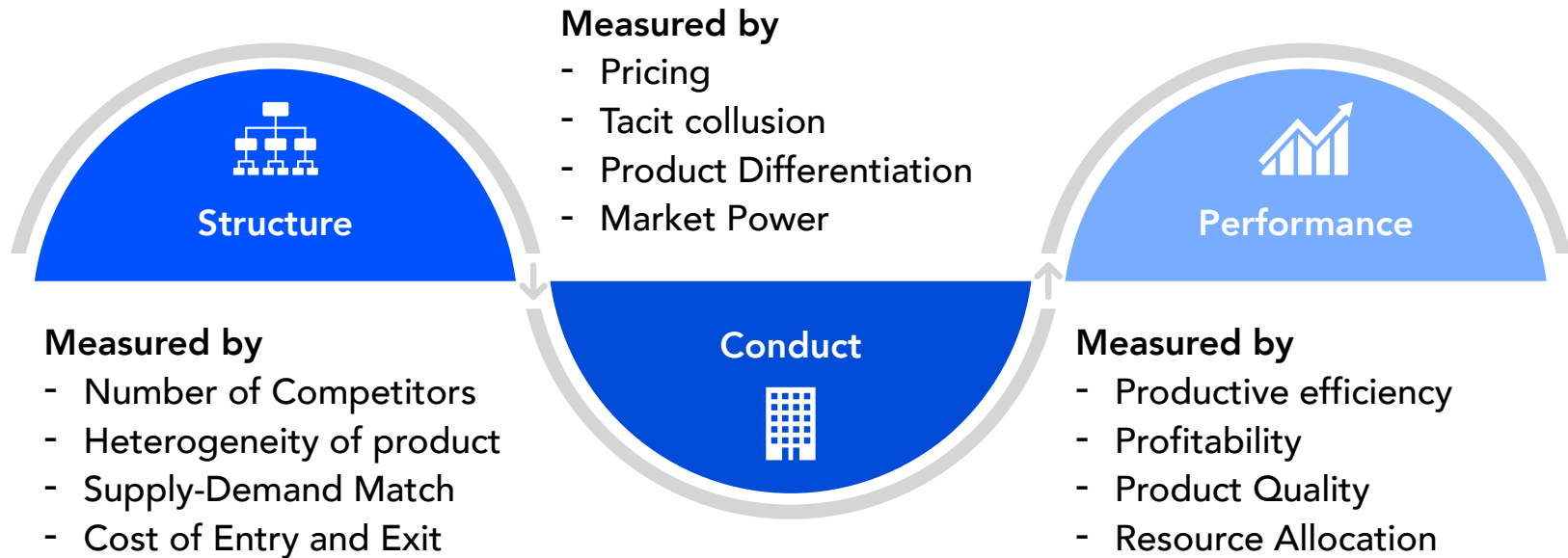
Use Cases

The structure-conduct-performance (SCP) paradigm can be used in the following scenarios:

- To analyse a non-changing industry.
- To justify consolidation in an industry.
- To investigate the effects of an external shock on one sector (like talent drain, shifting global demand, pandemics, data attacks and changing consumer demand).
- It studies whether structure drives performance and also influences conduct.
- To analyse the effects of a more attractive industry structure on the industry's performance.

The SCP paradigm cannot be used alone to generate relevant insights and is often used with other consulting tools.

Practice Problem

Analyse the impact of adverse weather and natural disasters at the workplace on the performance of Texas Instruments.

3Cs Model

Overview — 3Cs Model

Customers
- Who are the key customers?
- What do they value?
- Why will they choose our product?
- What do they think of our product?

Strategy
Strategy is the balance between what we offer, what the customers want and the threats from our competition.

Customers

Competitors

Company

Competitors
- What are they offering that we can do better?
- How are they making money/profits?
- What should we do to beat them?

Company
- What are our strengths and weaknesses?
- What is our unique selling point (USP)?

Customer Analysis

1. Customers are the most crucial of the three elements since a firm cannot exist without them, or there would be no opportunity to achieve a competitive edge. The best strategies are often found by putting oneself in the customer's shoes.
2. The best approach to determine how to appeal to your target market is to conduct thorough consumer research.
3. Demographic information is crucial to this research. This information can be found through surveys and interviews with the target market.
4. Understanding your target market and what they want can help you develop marketing techniques more likely to succeed once implemented.

Competitor Analysis

1. After analysing the customers, a company needs to understand how it compares to its rivals.
2. The first step would be finding out the main competitors in the industry.
3. Then one should find their business model, revenue streams, go-to marketing strategy and USP.

4. One can do this by analysing their website using SEO tools, reading their newsletters and reports, visiting their stores or online payment check-out and contacting them as a potential customer.
5. Also, you should find out the brand image and penetration of the competitors.

Company Analysis

1. Last but not least, one should analyse the client company.
2. You must focus on cost structure and cost-effectiveness in production and marketing. These are key to ensuring more cash in your hands.
3. You should find out what marketing tactics have previously been successful for them and what hasn't. It would help if you approached this, once more, from the client's perspective.
4. We must now analyse our brand image and presence, compare it with the competitors, and see ways to gain an advantage.

Solved Example — 3Cs Model of Burger King

Customer

1. The average Burger King customer is a middle-high income male in the age bracket of 15-40 years.
2. Its unique and innovative marketing strategies show its focus on customers.
3. It offers one of the most reasonably priced and largest variety of products which is loved by the people.

Competitors

1. As McDonald's is the market leader, BK's major strategy has been to attract McD's customers over to them.
2. The one penny whooper played a very important role in this. They built their brand image as one which promotes fresh foods using the stale whooper campaign against the longevity of McDonald's burgers.

Company
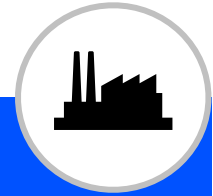
1. Burger King's mission is to offer reasonably priced quality food served quickly in attractive, clean surroundings.
2. It's based on a franchisee model.
3. It focuses on a cost leadership and differentiation business model, thus catering to a more significant no. of people.

McKinsey 7S Model

Overview — McKinsey 7S Model

The McKinsey 7S Framework is a management model that identifies seven internal elements of an organisation that must be aligned for success.

It is used to assess performance following a merger or other restructuring to identify areas that need improvement. The model suggests that the risk of resistance to change can be significantly reduced by incorporating all seven elements from the start.

This model ensures that an organisation's culture is not negatively affected by implementing necessary changes.
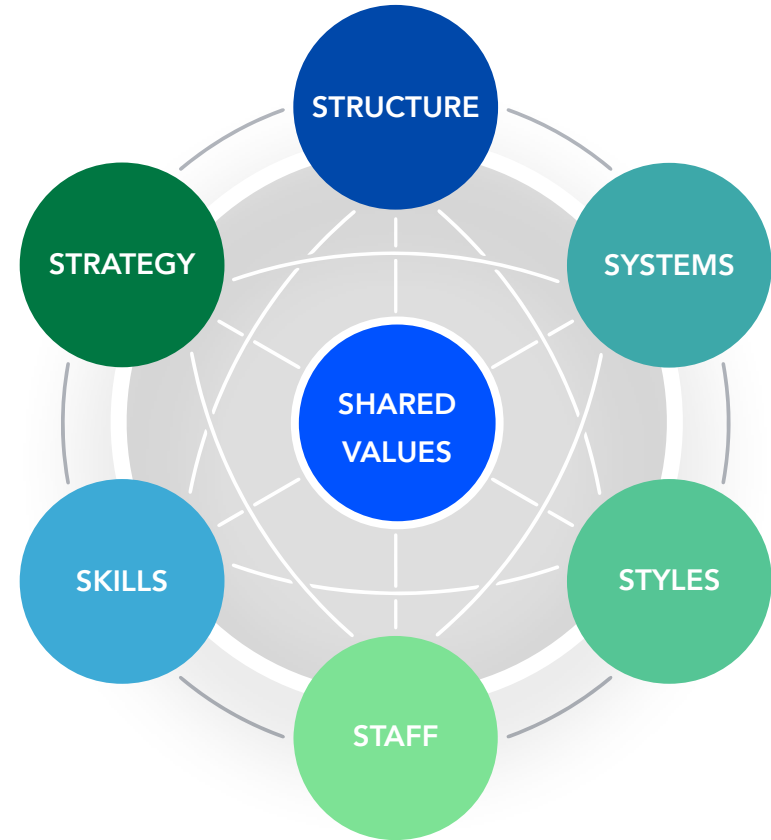
The Seven Interdependent Elements - Explained

Hard Elements

STRATEGY
Organisation's plan for building and maintaining a competitive advantage.

STRUCTURE
How the company is organised.

SYSTEMS
The daily activities and procedures that staff use to get the job done.

Soft Elements

SHARED VALUES
These are the core values of the organisation.

SKILLS
Includes competencies and distinctive capabilities.

STAFF
The demographic, educational and attitudinal characteristics.

STYLES
Typical behaviour patterns of key groups.

How to use the McKinsey 7S Model?

1	Start with your shared values: do they align with your organisational structure, strategy, and operations? If not, what can be changed?
2	Then look at the hard elements — strategy, structure, and systems. How well do they align with each other? Identify areas of improvement.
3	Next, consider the soft elements — shared values, skills, style, and staff. Are they consistent with the hard elements? Do they align with one another? If not, what can be changed?
4	You'll need to employ an iterative (often time-consuming) approach of making adjustments and then re-analysing how it influences other elements and their alignment.

Solved Example — McKinsey 7S Model of McDonald's

Cost leadership, High speed of customer services, aggressive international market expansion, the universality of the taste and cleanliness of restaurants.

McDonald's pays special attention to skills, training, and workshops are regularly held to ensure that staff is able to provide flawless service to customers. HR is one of its core competitive advantages.

McDonald's employs over 200,000 people worldwide and the hiring is done both internally and externally. The team is an inclusive one that accepts, encourages diversity, and works in synchronisation.
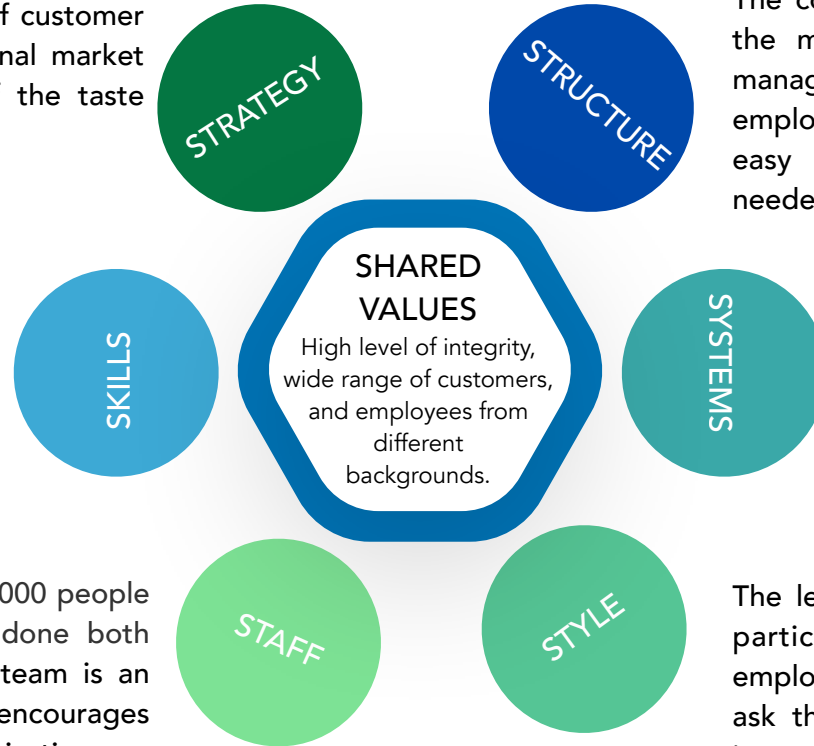
The company has a flat structure and the manager of each outlet usually manages assistants and employees. All employees work as a team and have easy access to senior leadership if needed.

The systems include but are not limited to employee recruitment and selection, transaction processing, team development and orientation and customer relationship management system.

The leadership style at McDonald's is participative. Seniors engage with employees from different levels and ask them to share their feedback to improve strategy and operations.

STRATEGY

STRUCTURE

SKILLS

SYSTEMS

STAFF

STYLE

SHARED VALUES
High level of integrity, wide range of customers, and employees from different backgrounds.

4 Ps of Marketing

Overview — 4Ps of Marketing

To market a product successfully, the 4 Ps are essentially important. The 4 Ps are comprised of four core elements:

1. Product
2. Price
3. Place
4. Promotion

The 4Ps are often referred to as marketing mix. However, this tool got extended to the 7Ps with the insertion of People, Process and Physical evidence. The marketing mix strategy is not static. One must adjust and refine it based on customer needs and product growth.

Product

Marketers first have to analyse who needs the product and why. They have to define the quality of the product in all areas like ease of availability, attractiveness, effect on the environment, etc. Being first in introducing a category can unexpectedly boost sales. For example, Apple was the first company to launch a touch-screen smartphone which could play music, browse, and make phone calls. Its sales touched the two billion mark in the year 2021.

Price

Price is the amount the marketer sets up for the product and the customer is willing to pay. Marketers must set the price, keeping production costs and profit margin in mind. The price of a product must be accurate and perceive its value. The supply costs, seasonal discounts, competitor prices, and retail markup are the essential considerations for putting up the product's price. Marketers also have an option to increase the price and create artificial scarcity to increase the demand for their products. Giving appropriate discounts at the time needed also will draw customers, but it provides a look that the product is less desirable.

Place

The place is where the product is kept for sale. It may either be online or offline. The critical consideration for offline stores is to keep the product where it seems more people will buy. Selecting luxurious malls and stores will give the product an expensive and better quality look.

Promotion

Promotion is the way to communicate and advertise the product to customers. Giving ads on social media, banners and flexes on roadsides and malls will attract customers' eyes.

When to use 4Ps of Marketing?
This tool could be of use while launching a product in the market. At the time, analysing the existing development and sales will clearly show the areas of interest. This tool can optimise sales. Although it seems the 4Ps are mutually exclusive in their way, they overlap inevitably when the product sale begins to grow in the market.

Solved Example — Amazon

Product: Amazon started to keep various products ranging from electronics, clothing, home appliances & decoration, and accessories. It expanded its product range to Amazon Fresh for groceries, Kindle for reading e-books, Amazon Prime Video for movies, TV shows and web series, etc.

Price: Amazon gives an option to search for items below a specific price, providing ease to its customers. It also announces sales and highlights discount percentages on the product. Amazon Prime allows customers to take a subscription plan with multiple benefits of shopping. The options of pay later and auto-pay for subscriptions draws the customers.

Place: Amazon offers all its products and services globally. It operates massive warehouses at strategic locations all over the world to ensure timely delivery at even the remotest of places.

Promotion: Amazon uses aggressive marketing campaigns to promote its brand. It uses older searches and shows advertisements on other social media platforms linked with the same account.

Miscellaneous

1. Potential Industry Earnings (PIE)

This can be considered a modern version of the original Five Forces Model and is used to evaluate a firm's ability to enjoy its share of the industry profits.

PIE $=$ Total value added by the industry $-$ Total cost to produce the goods

In addition to the original five elements, the PIE model considers the effect added by value disciplines, which explains how some companies can achieve and maintain market leadership despite being in competitive industries. The three value disciplines are:

1. Operational Excellence
2. Product Leadership
3. Customer Intimacy

By identifying what is most important for an industry and its customers, a strategist can make specific recommendations about the direction a company should go. Companies should adopt either of the value disciplines to enjoy success.

2. RICE Model
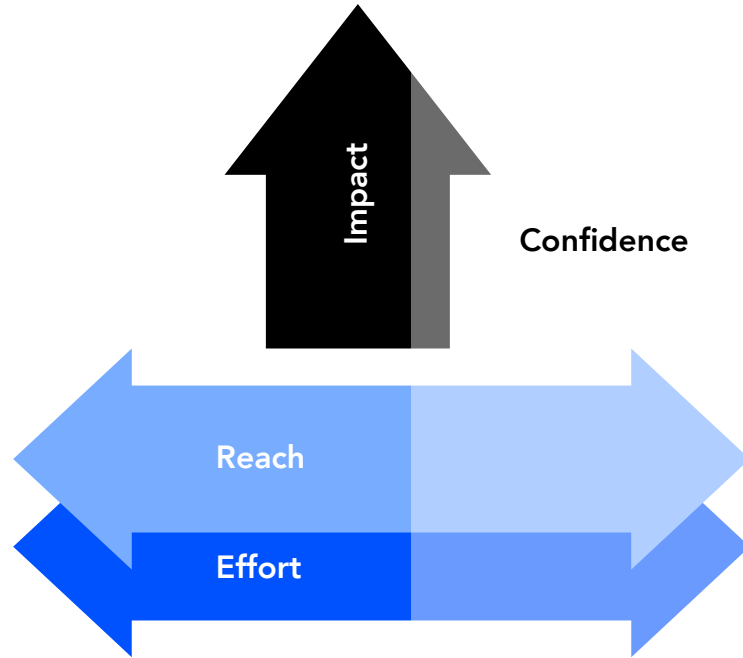
RICE is a prioritisation model companies use to improve internal decision-making processes.

Each of the four factors is scored as depicted in the illustration on the left:

1. **Reach** is measured as the number of people/ events per time period.
2. The **impact** of an idea on an individual user is estimated.
3. The level of **confidence** in the estimates is factored in.
4. The **effort** is estimated as the work that one team member can do in a month.

3. VRIO Model

VRIO stands for value, rarity, imitability, and organisation and is used to evaluate an organisation's resources and capabilities to determine its competitive advantage. You can use a decision tree to help map the outcomes of your probe, depending on whether you deem a resource as having met the criteria or not.

- **The Question of Value:** Can the firm exploit an opportunity or neutralise an external threat with the resource/capability?
- **The Question of Rarity:** Does the firm control scarce resources or capabilities or own something hard to find yet in demand?
- **The Question of Imitability:** Is it difficult to imitate, and will there be a significant cost disadvantage to a firm trying to obtain, develop, or duplicate the resource/capability?
- **The Question of Organization:** Is the firm organised, ready, and able to capitalise on resources and capabilities? Has the firm managed to capture value?

Consulting Frameworks

Profitability

Profits vs Profitability

Profits are merely a difference between revenues and cost, while Profitability refers to profit as a proportion of sales.

These cases are generally focused on drilling down to uncover the lever driving a change in the business. The 4 main steps in the process are given below:

1. Get comfortable with your levers
2. Drill down to the components
3. De-average & customise the components
4. Provide a recommendation

When to use the Profitability Framework?

- Growth Strategies
- Creative cost Benefit
- Declining Profits
- Weighing Scenarios

Framework Overview — Profitability
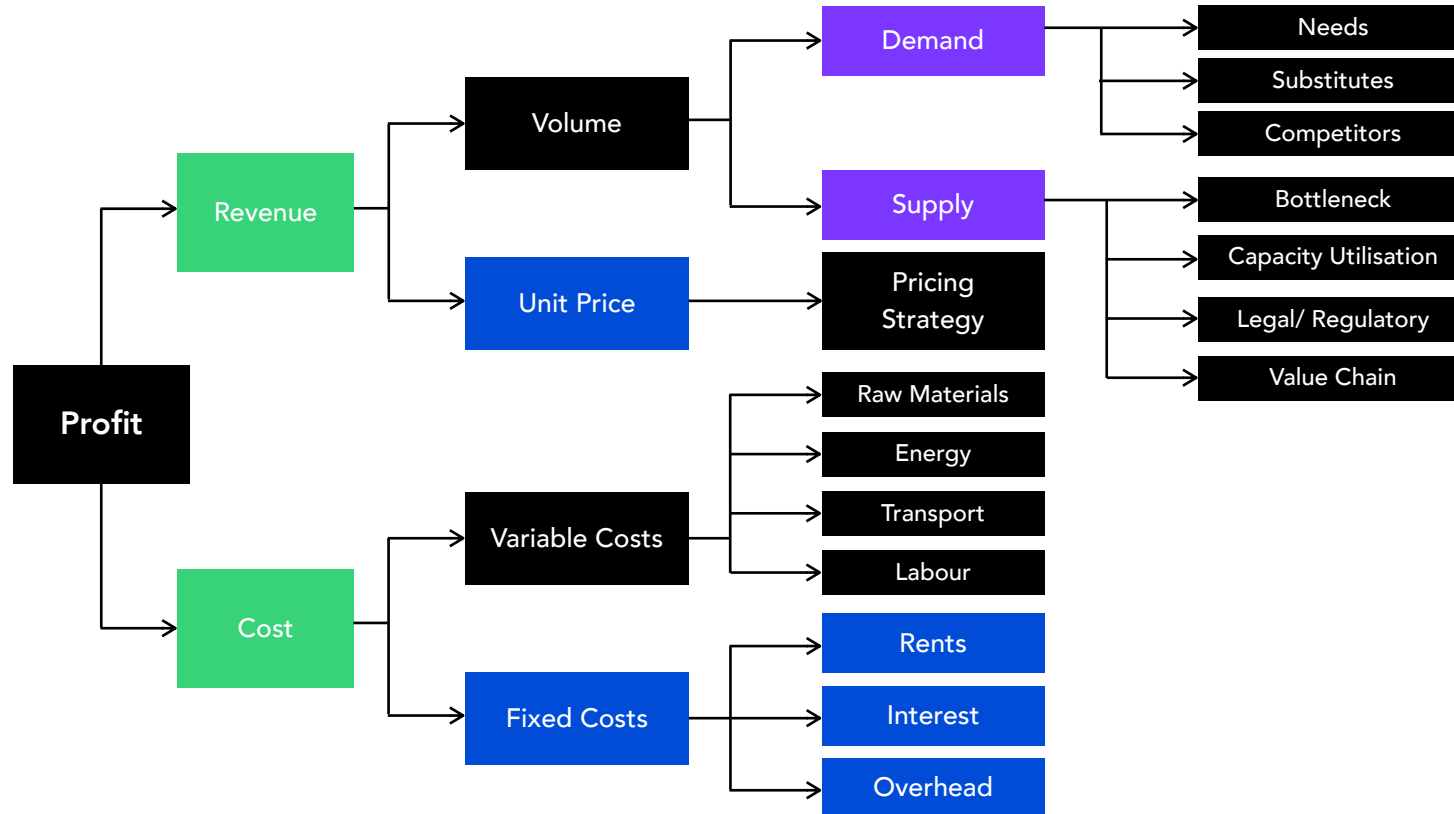
Case Transcript — Healthcare Technology

Problem Statement

Our client is a healthcare technology company that recently launched a hand-held device, the sales for which have not been picking up. Identify the reasons and suggest solutions.

Transcript

Candidate	Interviewer
Before I begin to analyse the case, I would like to ask a few clarifying questions. I would want to understand the client's business. What kind of hand-held device does the company sell?	This is a blood pressure measuring machine; it's a typical machine with a screen and a strap attached to it so that the strap is wrapped around the palm and the screen gives the reading.
How long have they been operating and where?	15 years; they have been operating in various Asian countries and is headquartered in New Delhi.
What customer segment are they targeting for the product, and what channel are being used?	They target customers aged 40 or above and use pharmacies and hospitals as channels.

Candidate	Interviewer
Have both the channels not seen a rise?	No, pharmacies have somehow been meeting the targets, however hospital is the one channel that contributed to the biggest decline.
Could you elaborate a bit like in hospitals, do you mean the chemist shop in the hospital, or is there a direct contact?	So, whenever you go to a doctor, they recommend some machines, so by hospitals, we mean the doctors who recommend the devices. The chemist shops which are there in the hospitals are included in the pharmacy.
So those are not meeting the targets?	No, the doctor recommendations are not meeting the targets set.
Are there any supply-side issues that I need to look into, i.e., are the products reaching the market or is it a demand-side problem?	No, I think it is a demand-side problem. We have been approaching the product quite well, the supplies are there but the demand is not there.
So, on a broad level, I have laid down the approach. Is there any particular bucket that I should dive deep into?	Let's focus on awareness.

Candidate	Interviewer
So, I will start with the organic promotions, where we will discuss perception and the role of the influencers. So, in the hospital, you said the primary touchpoint is the doctor, so is there a chance that the doctor is not pushing your product?	I think so, that's why people are not buying.
Is the doctor back mounting your product as well?	He may; we are not sure. Let's dive into that.
So, for that, I would require to know a bit about the price point of the product, i.e., how much does your device cost and what would be the life of the product?	Rs. 2700 per piece and the life of the product is 3 years.
How much does a visit to the doctor cost when a person goes for a blood pressure checkup?	On an average, Rs.100 per visit.
A person would visit the doctors how many times in a month or a year for a blood pressure checkup?	Assume that a patient visits at least 7-8 times a year.
Are you giving the doctor any commission for pushing your product?	Yes, we are.
How much would that be?	Around Rs. 100 per product.

Candidate	Interviewer
So, I see a significant price difference there. In 3 years, the doctor would be getting Rs 100 per patient, and here the doctor is getting Rs 700 in a year. So this is a probable reason why the doctors are not pushing the product. There could be other reasons that could relate to the perception of your brand, however that won't be the case here. Another issue can be the product itself. Is that a possibility?	Let's dive into them.
With the product, that would bring us to the experience. There, I could talk about the user experience. So, broadly if I think about the product, there are two significant aspects - one is the product's function and the second is the design. In design, we will talk about its form as well. So, functionally is your product fool proof and provide an accurate measure of BP?	If the strap is bound correctly, it will be accurate. However, if it isn't then there will be certain inaccuracies.

Candidate	Interviewer
You mentioned the strap which brings us to the design. So does the strap get attached every time properly or is there a possible glitch?	We have experienced certain complaints about the strap getting loose after 12 months of usage and hence the readings turn inaccurate.
So we have an issue with the product design as well?	We might have.
So far, I identified two problems — one caused by concerns among doctors and the second caused by its design.	Good. Now, how would you propose solving these issues?
To solve the influencer issue, we can actually increase the commission for doctors; issues with design can be solved by improving the quality of straps of device so that get tied properly and easily.	Great! Let's conclude the case here.

Structure
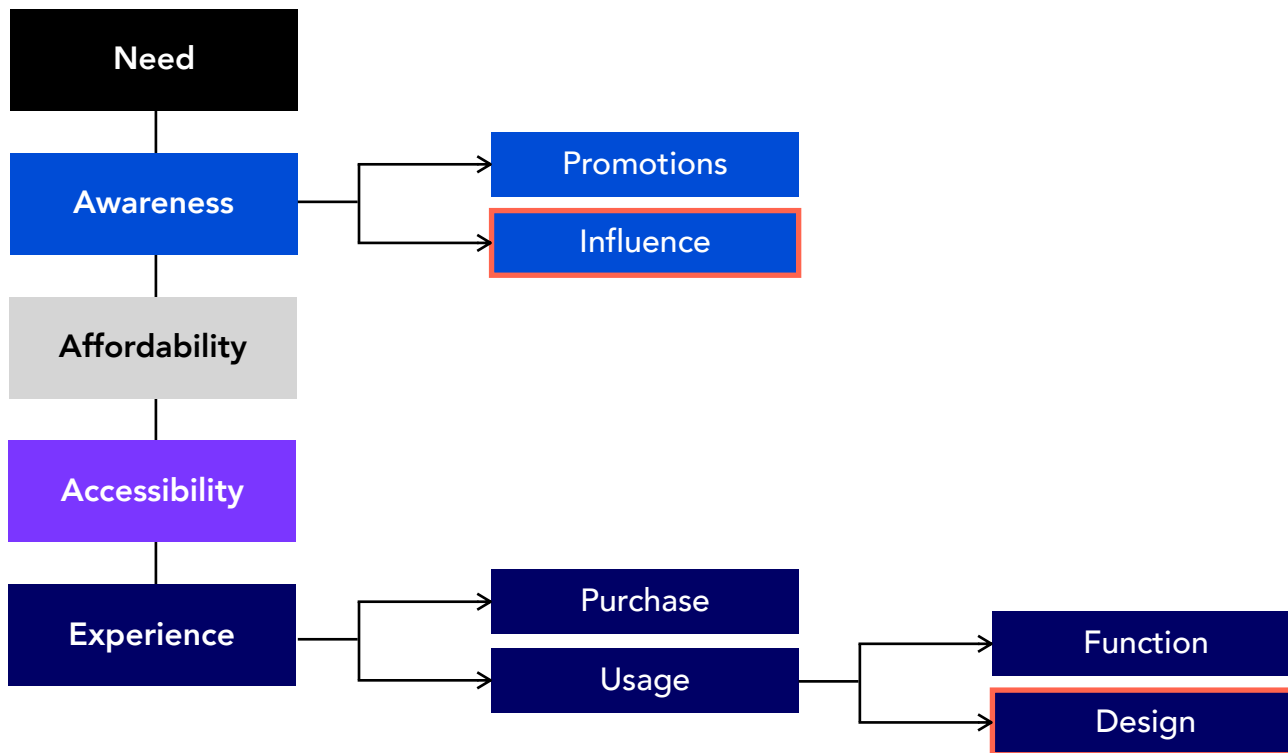
Market Entry Framework

Framework Overview — Market Entry

	Industry	Company	Customer	Product	Costs
New Market Entry	Growth Rates	Core Assets	Segments	Customer Expectations	Distribution Costs
Vision	Barriers	Capabilities	Needs	Current Portfolio	Input Costs
Goals	Revenue Estimates	Resources	Profiling	↓	Shared Costs
Objectives	SWOT	Product Offerings		Potential Market	

Entry Strategy	Yes	Scratch	Acquisitions	JVs
	No			

The magnitude and importance of entry decisions — encompass everything from geographic expansion to new products to diversification efforts — calling for a detailed analysis. Before one firm can enter a market, it is essential to estimate the economic and operational feasibility of the business in that market.

To remove any bias from our analysis of entry decisions, we should target the five core issues — value proposition and capabilities, the market size, competition, market share and revenue, and costs involved.

Key Questions to ask yourselves

1. What is my distinctive value proposition, and do I have the necessary capabilities and competencies (including talent and experience in other related markets) to succeed?
2. What geographic area will I serve, what are the existing conditions, and how much demand will be there in the market?
3. What costs and economies of scale/scope will I face?
4. What sales do I expect to see for my offering?

Predictors of Success

Predictor	Description
Size of Entry wrt Minimum Efficient Scale (MES)	Companies that are closer to an industry's MES upon entry are more likely to succeed. Entering below MES and then quickly scaling up is more viable when testing a market.
Relatedness of the Market Entered	The more related the market is to a company's current portfolio of products/services, the greater the chance of success, but properly measuring how related is crucial.
Complementary Assets	Complementary assets such as marketing and distribution, are often more important factors for success than core assets. One should perform a value chain analysis to understand the problems and risks involved.
Industry-life-cycle stage	The life cycle stage of an industry is easily determined and greatly influences opportunities for success. Companies entering early in an industry's life cycle have greater odds for success than those entering near the shakeout
Degree of Technological Innovation	When a high level of superior information is necessary to innovate, incumbents have a major advantage over new entrants.

Solved Case — Launching Electric Trucks in India

Problem Statement

Our client, Paccar, is a Dutch premier commercial vehicle manufacturer. In the wake of the Government of India's newly announced Production-Linked Incentive scheme and reduced tax schemes for EVs, the company plans to introduce its range of electric trucks and buses in India. You have been hired to find out if they should introduce these vehicles in India.

Notes — Production-Linked Incentive Scheme

1. The PLI scheme provides an incentive of Rs. 26,058 crores, which will be delivered over five years, starting in 2021.
2. Manufacturers would have to commit to setting up a manufacturing facility with a minimum capacity of 5GWh and ensure a minimum 60% domestic value addition within five years.
3. Subsequently, the battery or cell manufacturer will have to achieve a domestic value addition of 25%, show a minimum investment of ₹225 crores per GWh within two years, and raise it to 60% domestic value addition within five years.

Approach — Structure

Customer	Needs longer range	Conservative	Opt for cheaper ICE versions	Small % receptive towards EVs

Product	Current portfolio include electric buses and trucks with a driving range of 200-300 km on a single charge.

Company

Offers a wide product range consistent with global R&D divisions

Substantial market presence in Europe.

Net. Annual Revenue : $ 18.7 Bn.

Net. Annual Income : $ 1.4 Bn.

Company enjoys consistent profitability, a strong balance sheet, and excellent cash flow.

Industry + Costs

CAGR: 48%

3 Major / Existing Players, 4-5 Potential Entrants

High Sunk Costs

The Government has assigned $486 million as incentives for the deployment of 7,090 electric buses, with subsidies amounting to $69,000 per bus.

Initial Investments as high as INR 13,500 Crores

Proper infrastructure for support is missing

Approach — SWOT Analysis

Strengths	Weaknesses	Opportunities	Threats
Technical Expertise	Lack of ACC Manufacturing Capacity in India	High Dependency on Public Transport	Existing players are locally grown and established within the sector, having less operating costs
Environmentally Sustainable Portfolio	High Price of EVs (30 - 60% extra)	Rapidly progressing urbanisation across India	
Excellent Cash Flow		GOI's newly announced scheme to install charging infrastructure worth INR 20000 Cr.	High use of fossil fuels
Less substitutes	Cannot be used for Long Distance Transport	PLIs	High Sunk Costs and Low Demand

You can use **SWOT**, **PESTEL** or other consulting tools, as per your needs and requirements.

Recommendation

It is recommended for the company to look for possibilities to enter into a JV with existing players / potential entrants so that the company would be able to utilise existing infrastructure/ share costs. They shouldn't enter the market on their own immediately, given the existing conditions - low demand/sales for EVs and high sunk costs.

Pricing

What is a Pricing Case?

Pricing cases demand a consultant to come up with an optimum price for products or services based on several aspects like demographics, product features, market environment and purchasing power by employing various approaches to decide the final price of a new product like a market entry or reprice its older product which is a rare case.

Factors influencing Pricing

Total Costs	Market Conditions	Strategic Position
Fixed Costs, Variable Costs	Price War, Life Cycle of a Product, Seasonality and Availability	Cost Advantage, Benefit Advantage

Unique Selling Point	Government Policies and Regulations	Changing Consumer Behaviour and Expectations

Pricing Strategies

Cost-based Pricing

This is comparatively a simple method as it needs only the calculation of various costs involved in the product. Nowadays, the cost-based approach is considered insufficient, but it helps to understand the cost structure of the product. This strategy will typically give the lowest price or lower limit.

Cost Based Pricing can be done using Cost Plus Pricing and Break Even pricing.

Competitive Pricing

Using a pricing strategy based on competition that is present in the market.

- Lower Prices: Companies which capitalise on economies of scale set prices that are not profitable to attract new customers to sell more profitable goods and services.
- Higher Prices: Pricing the products higher than competitors in the market is usually employed by well-established brands.
- Equal Pricing: Companies price product equal to that of the competitors' and offer unique experiences.

Value-based Pricing

Involves setting the price of a product or service based on the value it brings to the customer. This is a function of the target segment; the wider the target segment gets, the lower the aspirational value will be.

It is essential to consider alternative and substitute products' prices before generating the final price of the product. This strategy helps us to determine the maximum price of a product.

Pricing Strategies — Flow
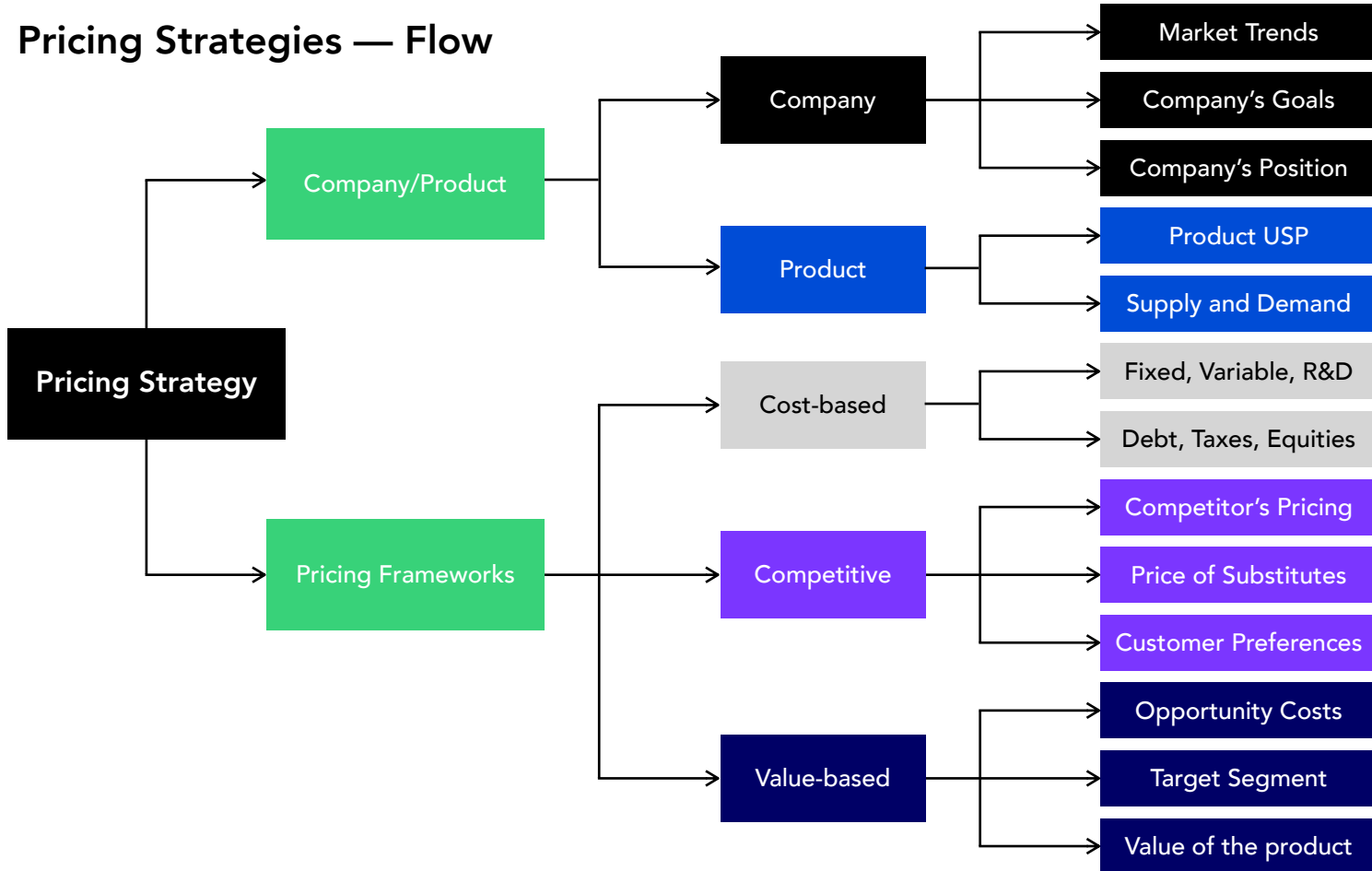
Tips and Tricks

Supply vs Demand tradeoff approximation by graphical approach is suggested.

Check whether time value of money is considered.

Calculating market size can be helpful.

In many cases, pricing problems can be 'masked market size' problems.

Finally deliver a recommendation.

Case Transcript — Drone Taxi Service

Problem Statement

Our client is an airline company trying to launch a drone taxi service between Mumbai (Bandra Station) and the newly built Navi Mumbai airport. How would you price this service? Is it a viable business?

Transcript

Candidate	Interviewer
Are they operating anywhere?	Yes, they currently operate in Dubai, Los Vegas, Tokyo and Seoul.
Since this is a new product launch in India, I would like to see if the services are feasible in the Indian market. Any specific reason for choosing India?	Growth Opportunities in India, traffic congestion and a booming economy.

Candidate	Interviewer
No existing players as well. Plus points would be time saved and luxury.	Indeed! Other forms of transport take 3 hours to commute in peak traffic hours, but this service can complete a one-way trip in 30 minutes.
Sounds good! Nearly 85% of the time was saved. Here we can go with two strategies. a) Cost Based b) Value-Based. Since there are no direct competitors, I wish not to take the competitor-based approach.	Well! We can start with Cost-based approach.
Are you planning to buy the drones or rent them?	We are collaborating with a famous drone taxi manufacturer and will use the drones on rental basis.
How many drones are we going to use? Will they be manned or unmanned?	Initially, there will only be one drone and it will be unmanned.

Candidate	Interviewer
What are the other expenses — like maintenance, fuel, employee salaries, airport charges and rental charges of drone?	Rent of drone is 25 lakh/month, airport charges are 2 lakh/month, and employee salaries and overhead costs are 5 lakh per month. The drone is powered by hydrogen cells which cost 50,000/hr of flying.
How many passengers can travel per trip?	Eight.
Let's consider peak hours 9-11 AM morning and 5-8 PM in the evening. Total service time is 5 hr/day and 25 working days per month. It turns out to be 5 round trips per day.	Nice! Go ahead. Also, assume 100% occupancy rate at all times.
We can have a total of 125 trips/month. It will cost 3,78,000/day. If 100% occupancy is considered, we can provide service to 80 passengers/day. So, a one-way ticket should cost around 4800 rupees.	

Candidate	Interviewer
On the other hand, it would cost only a maximum of 800 rupees by road. So the difference is 4000 rupees. Though the service is expensive, the rich can afford it, and the services are to be restricted to busy areas and at peak hours. It can be expanded with a similar strategy in other metro cities as well.	Well Done! We can conclude our case here.

Key Takeaways

A basic approach to pricing cases consists of the following questions:

1. **USP:** What is the product's unique selling point?
2. **Cost Price:** What is the cost of production?
3. **Competitor Analysis:** How have the competitors priced their products?
4. **Value:** What are the benefits of this product to the customer?

Growth Strategy

Framework Overview — Growth Strategy

A scenario involving a growth plan or revenue increase is typical in your consulting interviews.

Case studies involving situations of revenue growth may be handled by changing two key factors that affect growth rates. These factors are mainly customers and orders/billings.

There are two most common types of growth strategies: Organic and Inorganic growth.

Organic growth, fuelled by increasing output or engaging in internal activities, is the most prevalent sort of growth that businesses attempt. In other words, the company is developing due to its resources and initiatives.

On the other side, growth fuelled through partnerships, joint ventures, or acquisitions is known as **Inorganic growth**.

Structure — Growth Strategy
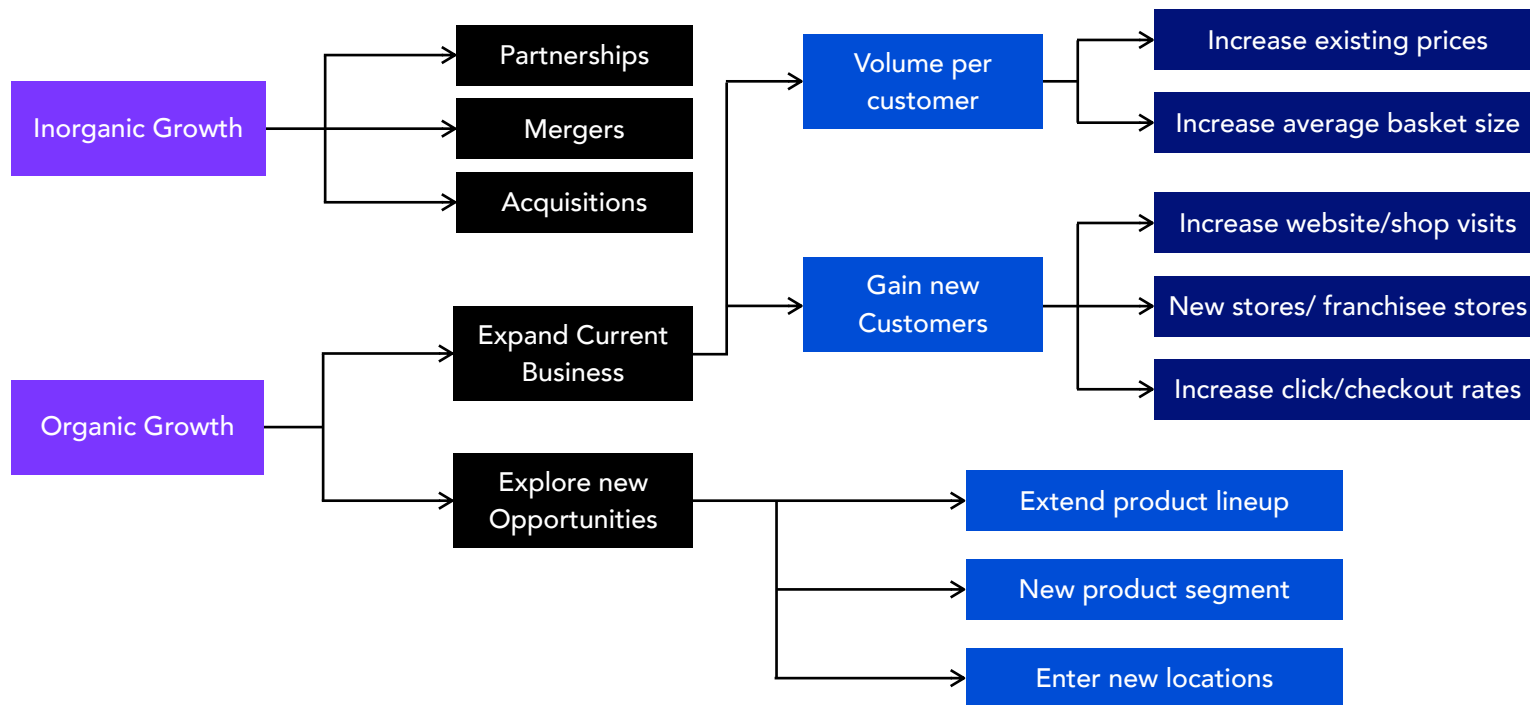
Key Takeaways

The following questions are to be answered in a Growth Strategy case.

1. What's the industry average growth?

2. What are current and target growth rates?

3. Amount of cash available/cash flow and time.

4. Our existing strengths in the targeted segment

5. What is the competition doing right and wrong?

6. What method are we looking into (organic/inorganic) and scale?

7. Price elasticity and sensitivity of the market

8. People's new demands/preferences

9. Are there any threats, hurdles or barriers to our plans?

10. What will be the expected return in terms of Revenue and Profits?

Case Transcript — Pharma Sector

Problem Statement

Your client is major drug manufacturer. Its business was booming during the COVID times, but its revenue and market share have fallen in the last quarter. It has approached you to help to grow its business and reverse its declining trend.

Transcript

Candidate	Interviewer
I'd like to clarify a few things before I analyse the case. I want to comprehend the client's position in its industry. What position does it have in the value chain?	Our client is one of the leading pharmaceutical companies in India. The company focuses on developing new formulations and producing a large variety of drugs and a wide range of pharmaceutical products.

Candidate	Interviewer
Is the problem industry-wide or specific to our client?	Only our client is facing the problem as there is an overall growth trend in the industry of about 5-7%. However, since the reduction in COVID-19, the client is facing a revenue drop.
I believe the revenue reduction is mainly because our client was producing a large variety of drugs used to control or treat COVID. Is that correct?	Yes, that is correct. However, we are looking for ways to improve growth and regain market share. Could you suggest some ways for the same?
We can look forward to both organic and inorganic growth streams. We can look forward to the acquisition of some regional players doing well, and this would lead to mutual growth. On the other hand, we can focus on reaching more customers, increase our offering variety, or expand business in areas with low presence.	I would like you to focus more on our current capacities.

Candidate	Interviewer
The issue can be related to either supply or demand. I would consider factors like production capacity, accessibility, and product mix while considering the supply side. I would consider price, rivals, and product quality from the demand perspective. So, would you like me to focus on the supply or demand first?	I think the issue is majorly based on the supply, so let's take that first.
In that case, let's focus on our existing product mix and operational efficiency. What are the major product categories we offer?	The client is operating at almost 95% efficiency, which is the industry standard and makes mainly prescription drugs and is a minor player in OTC drugs and is involved in mass production of these drugs. The drugs are sold mostly through hospitals, chemists and pharmacy stores. It also has an export business of drugs to the EU, USA and Africa (mainly South Africa).

Candidate	Interviewer
Since we don't offer many OTC drugs, I feel that we can look into that segment as it's one of the fastest growing segments with higher than industry average growth rates. Also, that will help increase our online presence as most people buy OTCs from e-retailers and prescription drugs from stores. We can use our vast manufacturing setup to gain a foothold in that segment and establish cost leadership.	
We can also look towards selling in bulk to insurance companies and suppliers as I feel users would be more than happy to buy our products due to our lower cost structure. Also, I wanted to know about other areas where you would like me to focus, like exports or R&D.	The client is satisfied with its current R&D developments. However, we can look into exports and foreign markets.

Candidate	Interviewer
Which are the key countries we export to and manufacture in?	We mainly manufacture in India due to cheaper labour and production costs. However, we supply to the EU, South Africa, USA and Canada.
We can also look to set up a manufacturing plant in South Africa if possible, as it would help to lower costs in the long run and allow us to expand our business in that continent; it may also help to reduce costs to sell to EU and North America.	Finally, I want you to conclude with three critical recommendations for our client.
First, we should expand our OTC (over-the-counter) drugs business and increase our presence in e-pharmacies. Secondly, we can look to strike a deal with insurance companies to provide our drugs to their clients. Finally, we should look to strengthen our position in South Africa and set up a plant there if possible to help increase our global business.	That was excellent. That is all from my side. Thank you.

Market Sizing

Framework Overview — Market Sizing

Market size refers to the maximum number of sales or customers a business can see, often measured over a year. Knowing the potential market size before launching a new product line or line of business can help understand if it's a worthwhile investment of time and money. Typically, any market sizing exercise follows a four-step pattern:

CLARIFY	BREAKDOWN	SOURCE THE DATA	VALIDATE
Clarify the question by defining the product/ service measured and by conceptually breaking down the market by sub-products, applications, customer segments, geographies, etc.	Build your market sizing model by **breaking the problem** into smaller pieces, and **map out** your calculations. The two principal methods are **Top-Down Approach** and the **Bottom-Up Approach**.	**Gather the data** to resolve each of the smaller pieces and combine them into a single outcome. Sourcing the data is always a mix of secondary research, primary research, and analysis.	The final step is to **validate your outcome** using product definitions and segmentation, examining your calculations, sources and assumptions, as well as run sanity tests.

Top Down Approach or 'Chain Ratio Method'

Starting with a comprehensive market size estimate, the addressable market is estimated and then reduced to the target market segments using assumptions and data. A firm must first identify the customer segments it intends to reach and then assess its size and growth.

Let's take the example of determining the market size for toothbrushes. In a top-down market sizing framework, one would start with the Indian population and then move on to estimate what percentage of the population uses a toothbrush. Next, they would count how many toothbrushes the average person goes through in a year and the cost per toothbrush. Multiplying all these figures helps estimate the market size.

Addressable Market

Fundamental Understanding of the Market

Company Specifics
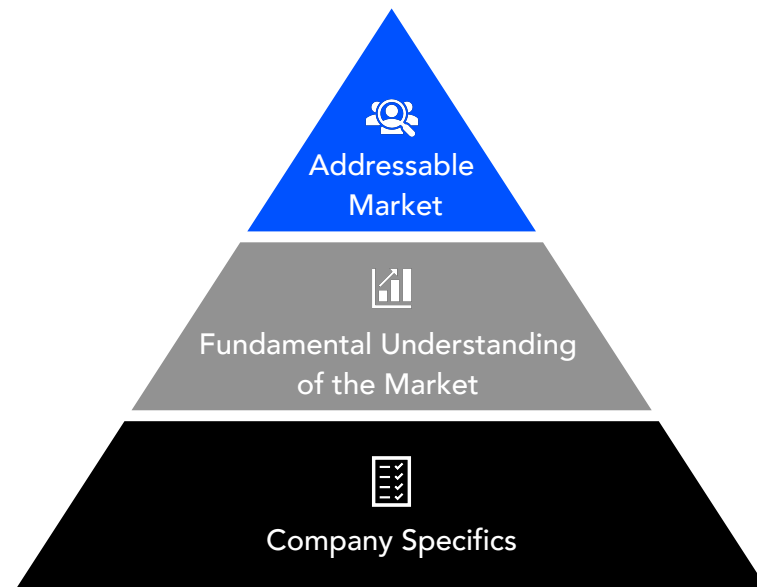
Bottom Up Approach or 'Counting Noses'

To do a bottom-up analysis, you start with the basic units of your business (your product, price, customers) and estimate how large you can scale those units. A firm must first identify the customer segments it intends to reach and then calculate its size and growth.

Let's take the example of a retailer selling fruits. How big is the market for this retailer? A Bottom-Up market sizing needs to start with the price of fruits, then move on to calculating the number of consumers he can reach and the average amount of money a consumer spends on fruits. We can also consider expanding to other cities depending on the available capital and operating plan. This gives us the size of the market for this retailer.

Understanding of Macroeconomy

Competitiveness and Penetration

Addressable Market
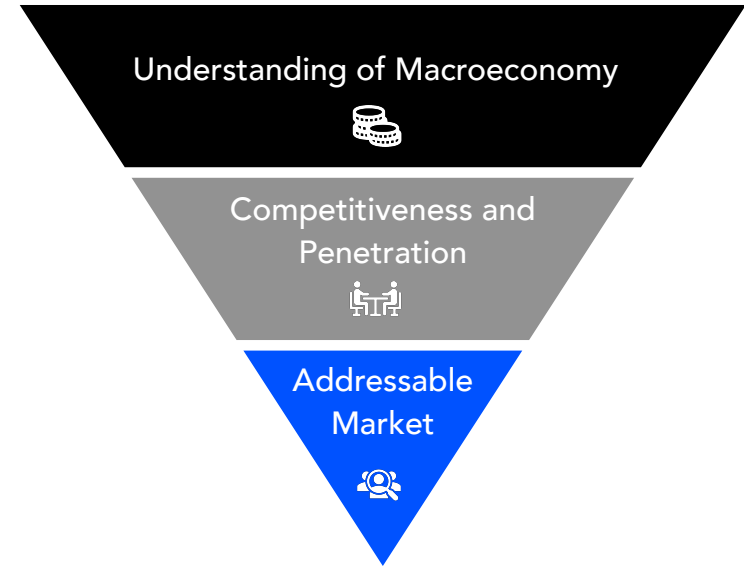
Case Transcript — Luxury Jewellery Segment

Problem Statement

The client is an American brand in the business of making luxury jewellery. The client wants to expand to the Indian market. You have been hired to find out the estimated size of the target market in India.

Transcript

Candidate	Interviewer
I want to be sure I comprehend all the essential details of the client's circumstances. They are American luxury jewellery and speciality retailer and wish to enter the Indian Market. We must assess the market and determine the size of the target market in India.	That's right. Now that you've understood the situation well, how do you propose going about the solution?

Candidate	Interviewer
Given that this is a brand-new product launch, I'd like to organise my discussion around the product's characteristics (creation and customisation for the Indian market) before moving on to the market size.	This sounds fine. Also, this product is not entirely new; it has already been introduced in other countries.
To start with, can you tell me something more about the product? How is it different?	The biggest strength of our client is its global luxury brand image. Another strength is their transparency in providing diamond information which consecutively ensures high-quality diamonds and other stones.
That is good. It gives us the advantage of positioning our product as superior and with a loyal customer base. I want to conduct a competitive analysis next so we can decide the price before determining the overall market size.	The first competitor in Indian Market is TBZ- The Original, which has a reputation for high-calibre craftsmanship. The second and strongest competitor is Tanishq having a solid reputation due to its parent company being the world-famous TATA Group. Some other competitors include Senco and Malabar Jewels which have a solid customer base among senior women.

Candidate	Interviewer
What other countries has the product been introduced to? How accepting have the people in those nations been of it?	The other countries have had good reception due to better standards and cost of living. The product has been quite a success. The percentage of upper-class people is more in those nations than in India.
So, our client in India will focus on gaining market share and increasing sales by targeting the elite class who can afford to pay for the exclusive jewellery. To estimate the pricing, it is fair to assume that this addressable market will be highly willing to pay. We should be able to calculate the optimal profit case by considering the trade-off in sales volume vs price for various price points. The solution will also be influenced to an extent by the growth rates of the different target segments overall, like the movement to the upper class from the middle class.	Yes… that is good. Let's assume we did this and came up with a price X; now, try estimating the market size with this assumption.

Candidate	Interviewer
Some factors I would like to consider while estimating are the purchase frequency and willingness to pay (for a premium brand).	That is fair. So what approach would be better for this problem while making the estimations?
The top-down approach. We start by considering the population of India. And it would be fair to assume that most of our consumer base will be the female adult population of India. Based on the frequency of purchase, we can fairly divide them into frequent buyers, casual/occasional buyers, and those who would not buy at all. (See calculation).	Good. What do you think will drive the market share for the client?
The Indian cohort may not relate to paying a massive price for a brand. They have never experienced this due to their trust in traditional jewellers, passed on from generation to generation.	

Candidate	Interviewer
However, the globalised brand image of the client and the fact that it is the first of its kind in terms of western jewellery in India will play a significant factor in attracting a young audience. Down the line, our client can focus on understanding Indian sensibilities and match Indian taste in their products to appeal to a broader audience.	Very Interesting, What about a short-term strategy?
As a short-term strategy, the client can focus on building a personalised digital omnichannel presence as most of the audience spend some time surfing through the web, curating and comparing designs before making a purchase.	Good, I think we have covered the different aspects of the case. Thank You!

Considerations and Calculations

The current population of India is 138 crores, of which 60 crores (approx.) are adult females. The Population of India is categorised by the standard of Living (out of 60 Cr): 10% elite, 20% upper middle class, 30% middle class, and 40% lower middle class.

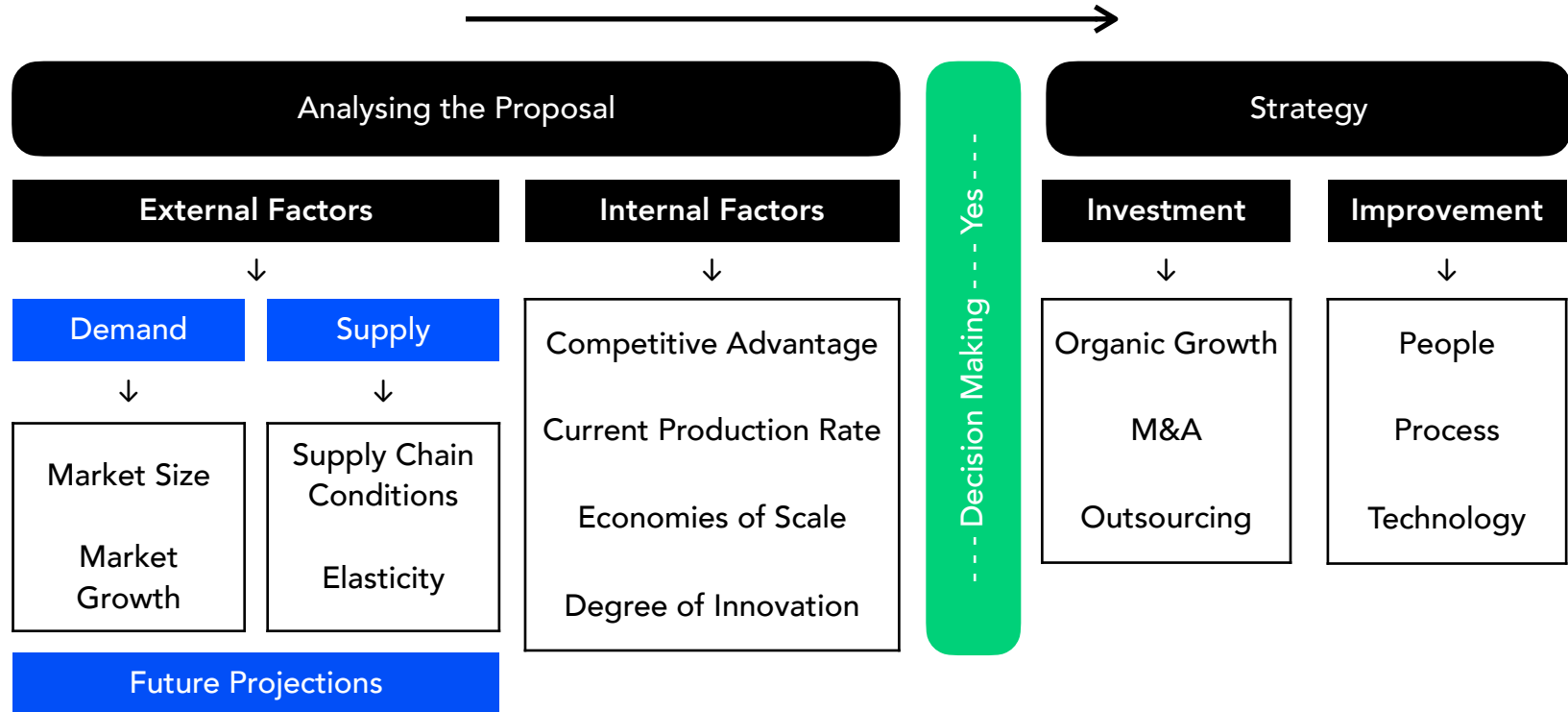|	Would not buy at all	Casual Buyers	Frequent Buyers
% female population	Lower middle class + 70% middle class	30% middle class + Upper middle class	Elite class
Population size	24 Cr + 12.6 Cr	5.4 Cr + 12 Cr	6 Cr
Frequency and quantity of purchase	N/A	2 items/year	Every two months, 1 item/ purchase = 6 items/year
Total consumption	0	2*(12.0 Cr + 5.4 Cr) = 34.8 Cr	6*(6Cr) = 36 Cr

Total: 34.8 Cr + 36 Cr = ~71 Cr. Now, for avg. price per unit X, the market size will be **71(X) Cr**.

Organisational Capacity Expansion Framework

Framework Overview — Organisational Capacity Expansion

→

Analysing the Proposal

External Factors

↓

Demand

↓

Market Size

Market Growth

Supply

↓

Supply Chain Conditions

Elasticity

Future Projections

Internal Factors

↓

Competitive Advantage

Current Production Rate

Economies of Scale

Degree of Innovation

- - - Decision Making - - - Yes - - - -

Strategy

Investment

↓

Organic Growth

M&A

Outsourcing

Improvement

↓

People

Process

Technology

Mergers and Acquisitions

What are Mergers and Acquisitions?

Mergers and acquisitions (M&A) refer to transactions between two companies converging in some form. Although the terms are used interchangeably, they come with different legal meanings. In a merger, two companies of similar size combine to form a new single entity. An acquisition is when a larger company absorbs the smaller company's business.

Other transactions fall under the M&A umbrella, such as consolidations (where a new company is created by combining core businesses and abandoning old corporate structures) and tender offers (one company offers to purchase the outstanding stock of the other firm at a specific price rather than the market price). There are also asset acquisitions and management-lead buyouts (like the 2013 acquisition of Dell by its founder) — however, these topics won't be discussed much in this guide.

M&A deals can be friendly or hostile, depending on the approval of the target company's board.

Reasons for Mergers and Acquisitions

Unlocking Synergies

Cost synergies are created due to economies of scale, while revenue synergies are created by cross-selling, increasing market share, or higher prices.

Higher Growth

Inorganic growth through M&A is usually a faster way for a company to achieve higher revenues than growing organically.

Stronger Market Power

In a horizontal merger, the resulting entity will attain a higher market share. In vertical M&As, the company will gain more control of its supply chain.

Diversification

Acquiring a target in a non-cyclical sector enables a company to diversify and reduce the risk of facing significant losses in an industry slowdown.

Tax Benefits

Acquiring the company with the tax losses enables the acquirer to use the tax losses to lower its tax liability.

Types of Mergers

Horizontal	Vertical	Conglomeration
A horizontal merger happens between companies operating in similar industries that may or may not be direct competitors.	A vertical merger occurs between a company and its supplier or a customer along its supply chain, aiming to move up or down along its supply chain.	This transaction is usually done for diversification and between companies in unrelated industries.

Congeneric	Market Extension	Product Extension
A congeneric merger occurs between companies with a common customer base but serves them differently.	Occurs between two companies that sell the same products, but in different markets.	Occurs between two companies selling different but related products in the same market.

Case Transcript — High-End Perfume Market

Problem Statement

Our client is a high-end maker/manufacturer of perfumes. It uses varieties of rare herbs in its products, but it cannot keep up with the demand for perfumes because of the lack of supply in the market. Not only is it having a hard time getting the honey, but it has also seen the cost of raw materials double in the last nine months squeezing otherwise fat margins. The client is considering buying a Nilgiris-based startup that sources these herbs. What do they need to take into consideration?

Table 160.1 (Client Statistics, values in INR)

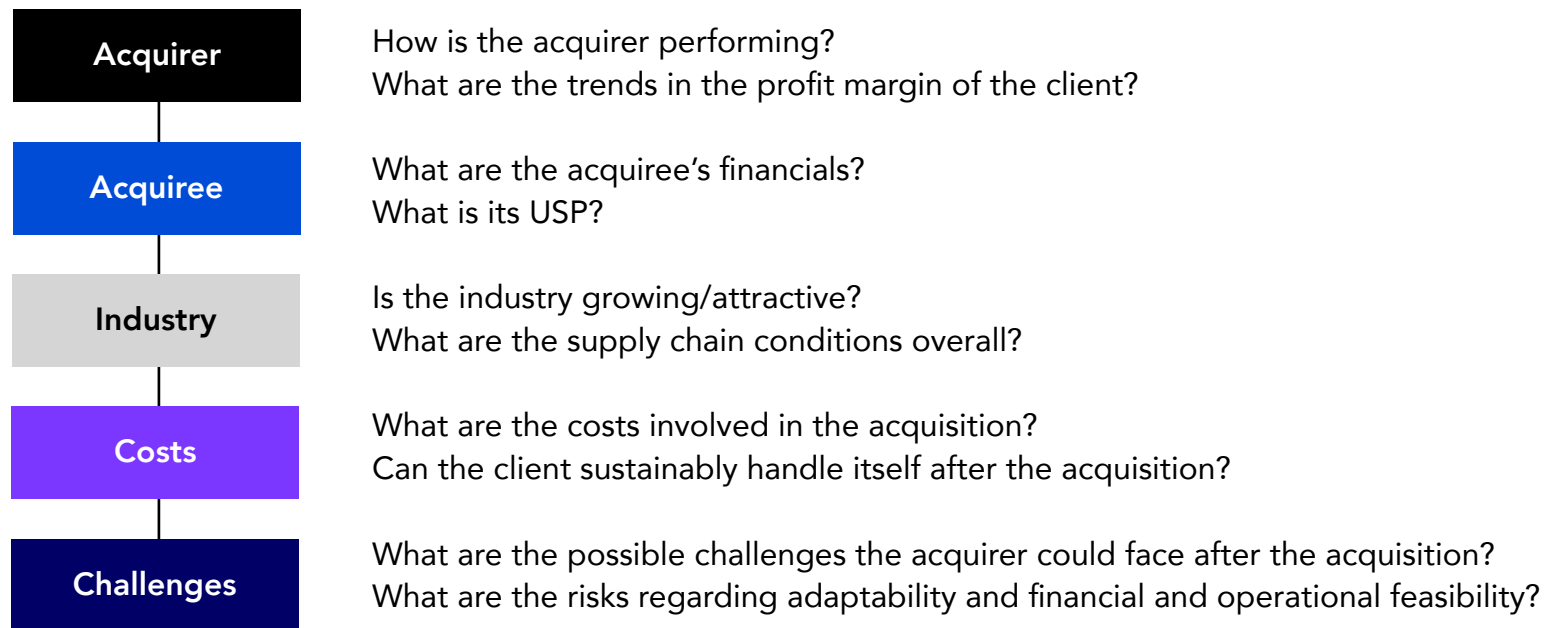| Client	FY20	FY21	FY22
Revenue	50 Mn	55 Mn	60 Mn
Profits	9.8 Mn	10.7 Mn	11.75 Mn

Transcript

Candidate	Interviewer
I have a couple of clarifying questions. Why does the client want to buy the startup?	I can think of a number of reasons. A guaranteed uninterrupted source of raw materials. Reduced costs through lower margins and synergies. Pre-empt the competition from buying the startup and limiting our source, and maybe to diversify holdings.
I would like to break this down into a few buckets — the acquirer and the acquiree's financials, industry, costs and risks involved and maybe an exit strategy. Can you tell me about the client's revenues for the past three years?	Yeah, sure. **[see Table 158.1]**
I can see that the profit margin has remained constant, around 20%, while revenues have seen an increase. Can you tell me about the client's market presence and how the competitors are performing?	Our client has a market share of 20% in the luxury perfume segment. It faces competition from three other companies, one of which sources the raw materials on its own.

Candidate	Interviewer
What is the industry growth rate?	The industry is growing at a rate of 9.6% as of now.
Who are the current customers of the startup? Does it supply to any of the competitors?	Their current customers are the Ayurvedic Pharma sector, and they have been supplying raw materials to one of the competitors to meet the demand.
Does the client have enough resources to acquire the startup?	Assume that the client can sustain on its own after the acquisition.
Okay. So my recommendation is that the client should acquire the startup, so that it could ensure uninterrupted supply and control costs. Probable challenges include the introduction of new brands with a better formulae and reducing demand in future due to shifting consumer preferences.	That went great. Let's conclude the discussion here.

Structure

Acquirer	How is the acquirer performing? What are the trends in the profit margin of the client?
Acquiree	What are the acquiree's financials? What is its USP?
Industry	Is the industry growing/attractive? What are the supply chain conditions overall?
Costs	What are the costs involved in the acquisition? Can the client sustainably handle itself after the acquisition?
Challenges	What are the possible challenges the acquirer could face after the acquisition? What are the risks regarding adaptability and financial and operational feasibility?

Private Equity Investment Framework

Framework Overview — Private Equity Investment

Private Equity (PE) Investment comprises funds and investors directly investing in private companies or engaging in buyouts of public companies, effectively delisting the public equity. The following aspects should be considered during a PE investment:

PE Firm Characteristics	Industry Attractiveness	Target Specific Metrics
Fund Size	Market Size	Business Model
Fund Style	Growth Rate	Valuation
Portfolio	Barriers to Entry and Exit	Management Capability
NPV / IRR	Competition	Portfolio
Exit Period	Customers	Profitability
	Supply Chain Conditions	
	Elasticity	

The scores can be assigned to each in the same way implemented with the **Nine-Box Model**.

Practice Problem — Investment in Sustainable Packaging Solutions

Problem Statement

With a growing demand for sustainable solutions, Capital Green is looking for investment opportunities in recycled packaging businesses. One such company, StaxPak UK, has developed a new cost-effective technology that reduces packaging costs by up to 25%. However, it needs additional funding of $200 million to start production facilities for mass-market adoption of this technology. Should Capital Green invest in the company? Identify probable risks while assessing.

Initial Considerations

StaxPak UK Statistics		Industry Statistics	
Total Assets	GBP 1.235 Bn	CAGR (2021-27)	8%
Current Liabilities	GBP 0.475 Bn	Key Markets	APAC, EMEA
FY22 Income	GBP 0.065 Bn	Application	Dairy and meat, Personal Care

Transcript

Candidate	Interviewer
So our client, CapitalGreen, wants to know whether they should pursue this investment opportunity in StaxPak, which has developed a new cost-effective technology to reduce costs by 25%. Am I right?	Yes, you are. How will you approach this case?
I'd like to ask a few clarifying questions. Is it safe to assume that the company operates nationwide and that domestic business is the primary arm of its business?	That is a fair observation; however, StaxPak also sells its products in other parts of Europe and recently started exporting the material to the US.
Also, what are the existing supply chain conditions, and what model has StaxPak adopted to sell its products? Is it similar to what other companies have adopted?	Like other companies in the industry, StaxPak operates via a direct-to-business model, and companies often place the order two months prior to meet their needs. But how is that relevant here?

Candidate	Interviewer
Since the packaging industry heavily depends on its distribution channels, any optimisation would positively impact the cost of the material sold. Also, has the working capital of the company increased year-over-year?	Although the working capital has increased, the current liabilities have too. What's your take on that?
This could be mainly due to the supply-demand imbalance and rising input costs. It could also arise due to additional expenses encountered while exporting to the US and the COVID-19 pandemic.	Yes, the costs have increased. Why don't you start by identifying strategies to solve these issues and make suggestions for the client?
StaxPak could expand to the APAC and middle-eastern regions as they've been identified as the largest markets for their products and also offers cheap labour and supply.	Are there other avenues the company should focus to reduce costs?

| Candidate	Interviewer
It should also analyse its operations in the US to check if the market is operationally feasible. It could also use predictive technologies to reduce process cycle times (between ordering and delivery). Shall I proceed to analyse whether this investment opportunity would be profitable for the client?	Now that you have listed out strategies to resolve the major concerns, you may proceed to drafting the recommendation for Capital Green.
Are there any major legal barriers in the UK or Asia to set up a new production facility? Also shall I take that the private equity firm would have an exit period not less than five years?	There are no legal barriers that would prevent setting up a new production facility. Also, you may assume Capital Green is not looking to exit the business before five years.
Given that the market is growing with a CAGR of 8%, Capital Green will be able to receive its investment and make profits of over 20% in not more than 4 years. If StaxPak builds its new facility in Asia, it could also pay dividends at a much faster rate.	Good. That would be all.

A Glimpse into the PM World

What does a PM do? (1/2)

A Project Manager is responsible for a project's planning, procurement, execution and completion. The project manager is in charge of the entire project and handles everything involved, such as the project scope, the project team, and the resources assigned to the project.

UX

Technology

Business

Product Management
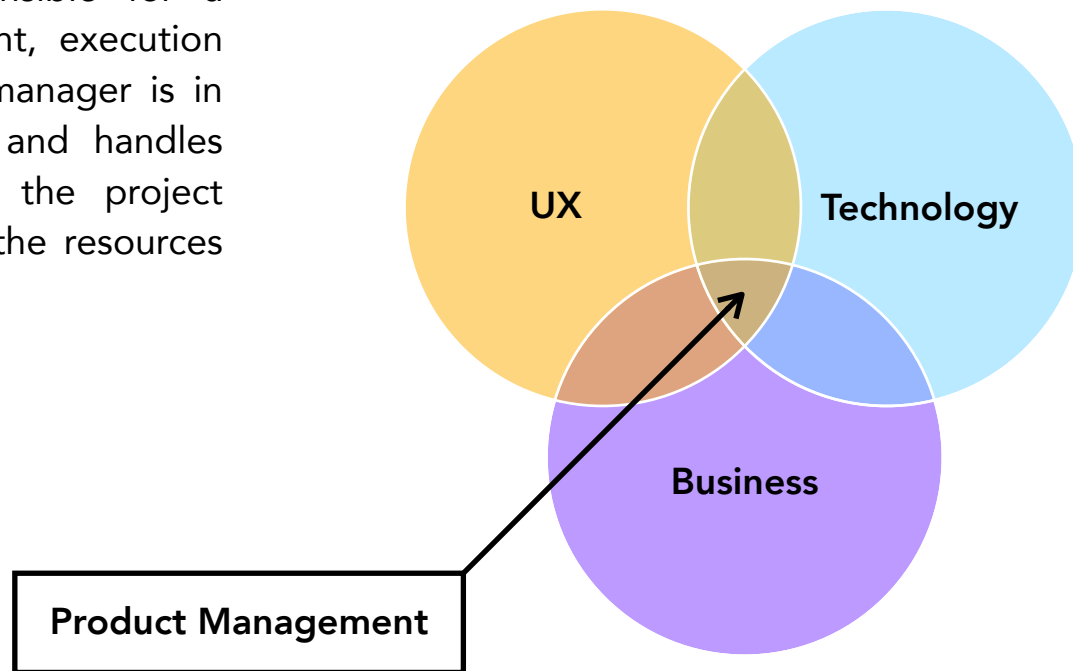
What does a PM do? (2/2)

The tasks of a Product Manager typically include:

- Planning what work needs to be done, when and who's going to do it,
- Looking at the risks involved in a particular project and managing these risks,
- Making sure the work is done to a suitable standard,
- Motivating the team of people involved in the project,
- Co-ordinating work done by different people,
- Making sure the project is running on time and to budget,
- Dealing with changes to the project as and when necessary, and
- Making sure the project delivers the expected outcomes and benefits.

Recommended Framework for PM Interviews

*General Approach.
May vary according to the problem.

List down the pain points
Faced by each of the user segments based on various conditions.

Create User Personas
To identify potential user segments.

Ask Clarifying Questions
To understand the purpose of improving the product and state assumptions.

Prioritise pain points
Based on the scale of impact on customers, company, and the industry overall.
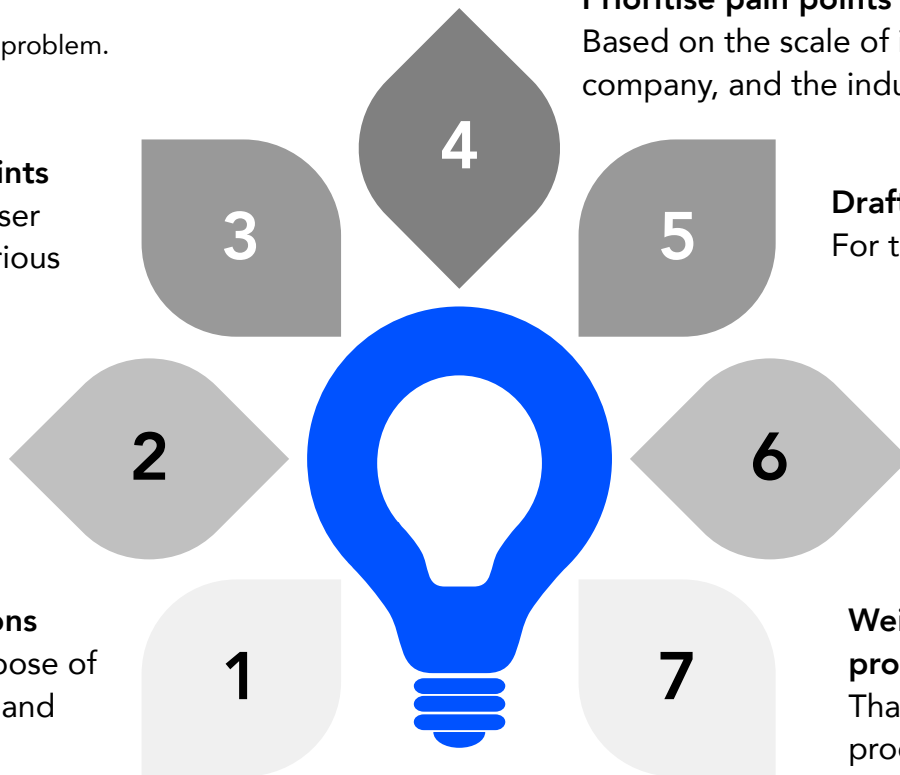
Draft possible solutions
For the prioritised pain points.

List KPIs/ Metrics
To analyse the impact and strategic fit of the solutions suggested.

Weigh trade-offs and probable challenges
That could arise during product launch.

4

3

5

2

6

1

7

This approach could be easily remembered as **CIRCLES**, first suggested by Lewis C Lin:
- **C**omprehend the situation,
- **I**dentify the customer,
- **R**eport the customers' needs,
- **C**ut, through prioritisation,
- **L**ist Solutions,
- **E**valuate Trade-offs, and
- **S**ummarise your recommendation.

We'll now cover the Minimum Viable Product (MVP) Framework and other tools that could be used in Product Management Interviews. We also recommend you go through **this article by productboard [click here]** to gain more insights into how companies constantly use innovative frameworks to deliver successful products.

User Personas and Research

User Personas and Research

User personas are archetypical users whose goals and characteristics represent the needs of a larger group of users.

User research is the methodic study of target users—including their needs and pain points.

Building Effective User Personas

It's essential to understand who your users are going to be. You could start by answering these questions:

1. What needs are you filling for them?
2. What are their pain points right now?
3. Are they familiar or brand new to the concept?
4. Have they tried this technology before?
5. What age, nationality, hobbies, or activities do they have?

Remember, your users may vary. So try to understand any commonalities or differences that they may have so that you can cater for them.

User Personas - Template

Name

IDENTIFIERS/ TAGLINE

DEMOGRAPHICS
Age:
Work:
Location:

PERSONALITY
Defining Traits:
Extraversion:
Openness:

GOALS
List goals of persona in relation to the role here.

PAIN POINTS
List the frustrations and challenges here.

MOTIVATIONS
Add what motivates the user here.

TECHNOLOGY
If relevant, add details here.

Create 3-5 unique and detailed personas with **consistent layouts.** Emphasise the user's motivation and pain points. Try and define some measures that you can mark on a scale. These can be handy for checking your design against and ensuring you're still fulfilling the needs.

Types of User Personas

Generally, personas are classified into three different types:

1. **Marketing personas** focus on demographic information, buying motivations and concerns, shopping or buying preferences, marketing messages, media habits and such. These personas are particularly useful when evaluating a product's potential return on investment (RoI).

2. **Proto-personas** are personas based on secondary research and the team's existing knowledge or educated guess of who their users are and what they want.

3. **Design personas** focus on user goals, current behaviour, and pain points instead of buying or media preferences and behaviours. They are based on field research and real people.

User Personas - Template Research

User research focuses on understanding the user behaviour, needs and motivations. There are many ways you can learn about your users. First, try to decide what's important and choose which approach is best. Interviews or focus groups with typical users are a great way to start. Here's a list of methods that you can employ:

1. Task Analysis
2. Observation techniques
3. Lab-based usability studies
4. Feedback methodologies
5. Surveys and Questionnaires
6. Interviews
7. Case Studies

Practice Problem

What user types would you research if you were to start a cab-hailing business on a mobile app?

Product Critique

Problem Statement 1

What would you change or improve in an app/website (e.g. Canva)?

Hold up — before the loading screen even blinks into view for the first time, there's a lot to consider:

1. How did this app come to your attention?
2. What's your one-line summary of what this app does at this stage?
3. What's the experience of getting started or signing up?
4. How easy to use was the app?
5. How did you feel while exploring the app?
6. How often have you used the app? When do you tend to use it? What compels you to open it?
7. Did the app deliver on your expectations?
8. How does this app compare to other similar apps?

Approach

1. The mobile app of Canva has less than half the features of the desktop version. Compared to the site, mac, or desktop version, the mobile app of Canva does not have the same number of features. Moreover, it is tougher to access the different elements in the mobile designing tab.
2. Canva does not have local file storage. If the website is down for some reason, you will need to wait to access your designs to make new changes.

Finally, the solution(s):

1. Improve the mobile app version of Canva by providing more features and being easy to use.
2. Develop a local file storage option to avoid disruption in work.

We will solve one more question before we move forward.

Problem Statement 2

Suggest changes or improvements that should be made on LinkedIn.

Approach

Let's assume the task is to **improve engagement on the LinkedIn mobile app by 5% over the quarter** (Here, engagement refers to the average number of posts created in a unit span of time).

- Draft user personas of the major LinkedIn users. Prioritise one persona and their story.
- Utilise the *job-to-be-done (JTBD) framework*, i.e. retrace the consumer's thought-process in selecting the given product to fulfil their intended job.

Solutions

Let's say your focus group is college students.

- What do college students use LinkedIn for?
- What are the challenges that they might face?

- What additional opportunities can be created for them on the platform?

Finally, the solution(s). College students wish to share their upskilling experiences with their network. To enable them:

- Set up campus-wide communities on LinkedIn, allowing students to showcase their talents and experiences.
- Create a featured editorial every week/month, featuring a selection of these communities and giving them exposure.

If there are multiple solutions, prioritise them. The RICE framework* (**R**each, **I**mpact, **C**onfidence, **E**ffort) helps achieve this.
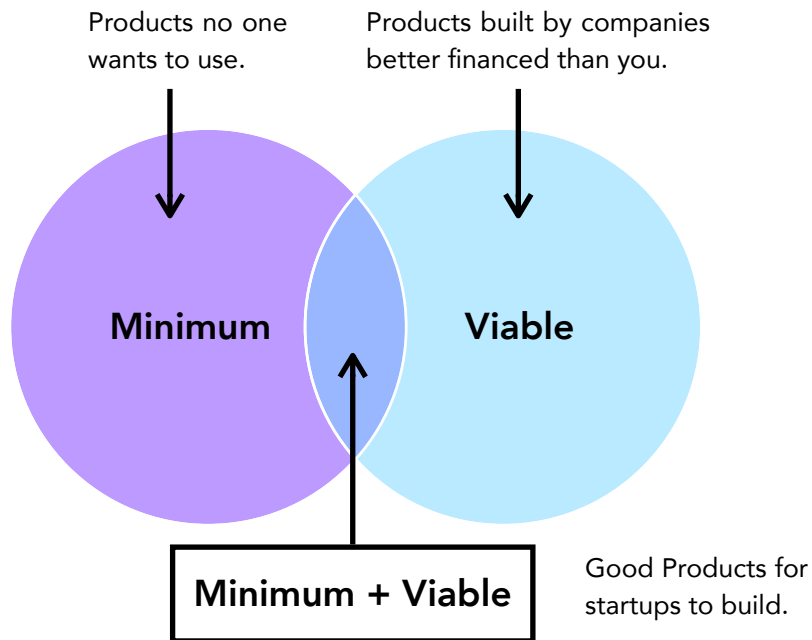
Minimum Viable Product

Overview — MVP

The term 'minimum viable product' or 'MVP' refers to a product with just enough features to draw in early adopters and validate a product concept early in the product development cycle.

Why a minimum viable product?

1. An MVP can reduce the time and resources you might otherwise devote to developing a product that won't succeed, enabling your business to validate an idea without producing the whole product.

2. An MVP helps understand what resonates with the company's target market and field-test an idea with real customers before committing to a product's total development.

Products no one wants to use.

Products built by companies better financed than you.

Minimum

Viable

Minimum + Viable

Good Products for startups to build.

MVP — Framework

Identifying and Quantifying the Problem
Identify customer pain points. Realise that not all problems are worth solving. Calculate the total addressable market and willingness to pay for an alternative solution.

1

2

Researching and Building an MVP
Validate the solutions with the target market. Define a bare minimum set of functionalities, followed by field tests. Once core functionality is defined, the nice-to-haves could be touched upon.

PM

Creating a Feedback Loop
This step is critical during MVP (Minimum Viable Product) introduction. It is necessary to turn feedback input into actionable ideas.

3

4

Strategy and Execution
Once MVP is well received, set goals to improve the product, expand its reach and align it with the overall company strategy. Define KPIs to evaluate success.

Solved Example — Airbnb

THE MVP: STRANGERS, AIR MATTRESSES, FREE WIFI, AND BREAKFAST

1. With zero financial support to implement their idea, the founders of Airbnb started a business within their apartment by building an online short-term, peer-to-peer rental housing network. They found customers willing to pay with a minimalist website, few photos published, and a targeted high-profile demographic.

2. Once they got a green signal from buyers, they started focusing on the seller side to understand if people were willing to rent their apartments to strangers. They launched a new feature allowing hosts near high-profile events to list their space on the platform. Despite a few false starts and numerous iterations, the solution to their second fundamental premise was reached: hosts are indeed willing to be paid to share their residence with strangers.

3. Today Airbnb is a major player in the sharing economy, and to think that this started with two guys renting out their living rooms for strangers to sleep on air mattresses.

Additional Case Problems

Solved Case Problem (Market Sizing, Market Entry) — Nutripremium

Problem Statement

Nutripremium is a well-known premium nutrition food company in Europe (€1 billion in revenue last year). It is based in Spain and has an excellent market share not only in its home country but also in Portugal, France, Italy and Germany. Nutripremium has two main lines of products:
- Vitamin supplements for pregnant women
- Concentrated dehydrated aliments and vitamin pills for sick patients (with Diabetes or Cancer).

The CEO of Nutripremium thinks that the European market is starting to get saturated and wants you to analyse the Chinese market. What key areas would you explore to determine whether this is a good idea?

Notes

- Nutripremium had been consistently expanding its production capacity. However, since the European market showed signs of slowing down three years ago, it stopped the production capacity extension. Factories are now being run at 98% of capacity.
- Nutripremium has no distribution channels nowadays in China. In Europe, it sells its 'Pregnant women' line in retail stores and its 'Sick patients' line through hospitals and treatment centres.
- A new factory in Spain that produces €100 m worth of products per year would require a €500 m investment. The same factory in China would cost €300 m.
- The company has around €600 m available for investments in its expansion.
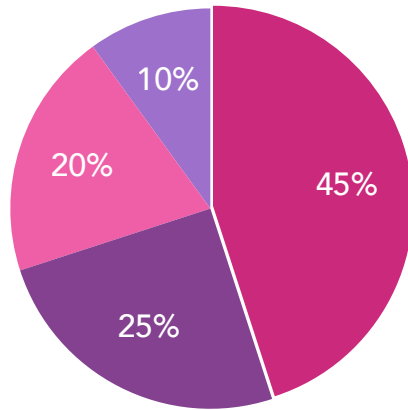
Table 191.1 (Target Market in China)

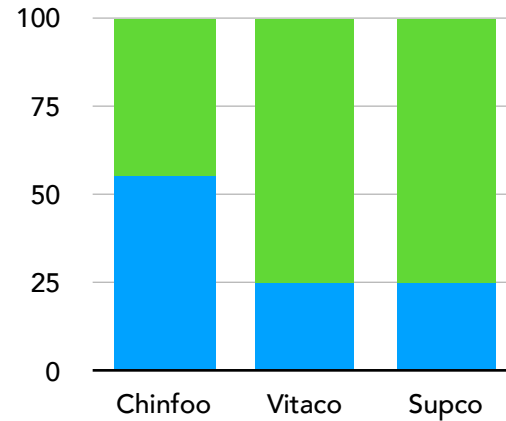|	Customers of nutrition foods (% of pot. cust.)	Yearly increase of % customers	Current average expenditure per customer per year (€)
Pregnant Women	10	25	150
Sick Patients	10	15	300

Notes

192.1 (Market Share of Different Competitors)

Chinfoo — 45%
Vitaco — 25%
SupCo — 20%
Others — 10%

192.2 (Government shares at competitors)

Others
Government-Owned

- It is evident that there are three main competitors and that the government holds significant shares in them.

- The market for special nutrition food is new in China. Old regulations contrary to it have been dropped upon Chinfoo's request. Lobbying by Chinfoo (government is a major shareholder) has been essential for the regulation-cancellation.
- Competitors are building at the time four new special nutrition food factories. Nutripremium's more advanced technology would allow it to produce 10% cheaper than the current competitors in China.

Structure

Market Analysis | Company | Competition | Conclusion

1. Market Analysis

One should analyse the potential of the new market using the following information.
- Usage of such products by customers
- Willingness to pay by customers
- Total market size for each of Nutripremium's product lines

- Customer segments
- Market Trends

One can estimate the size of the total market using **Table 191.1**.

Pregnant women market

Assume that, on average, a Chinese woman has two babies in her lifetime (pregnancy: 18 months = 1½ years). If we assume a life expectancy of 75 years, then we have, on average, **2%** of all female population pregnant at a given time.

Assuming the population of China has 1.5 billion people and that 50% of the population are women, we then have **15 million pregnant women**. Of these, only **10%** consume special nutrition foods, i.e. **1.5 million** women.

1.5 Bn x 50% x 2% = 0.015 Bn x 10% = 0.0015 Bn = **1.5 Mn**

With an average expenditure of **€150** per **woman** per **year**, the total market for pregnant women is **€225 million** per year. 1.5 m * €150 = **€225 Mn**

Sick patients market

Using a similar estimation strategy, we can assume that, on average, **2%** of the population has cancer at some time in their lives and for a duration of **5 years** (after that, they either are cured or pass away).

We have then, at a given time, around 0.13% of the population sick of cancer (2% of (5 years / 75 years)), around 2 million people.

To simplify the calculation, we assume **ten times** more people have diabetes, i.e. **20 million** people. So we have a total of **22 million** sick people. Out of these, we assume that about 10% of sick patients use special nutrition products. The total market is then:

22 Mn x 10% x 300 €/person = **€660 Mn**

The total market for sick patients is **€660 Mn** per year.

Task for the learner: Analyse whether the customers in China would like to buy the same product sold currently in Europe and whether new types of products would need to be created to suit the Chinese taste.

Hint: If new products needed to be created, the cost would be around **€2 Mn**.

2. Company

Here, one should inquire about the company's capabilities of expanding to a new market abroad.
- Company's capabilities and expertise
- Capacity to serve the Chinese market
- Money needed to invest in the market expansion
- Would the company continue producing in Spain to export to China? Probably not, as food is somewhat heavy, the shipping cost would most likely make the product too expensive for China.

The capacity of factories is being used to 98% today. An expansion to a new market would require investments in one or more new factories. Since the factories are supposed to serve the Chinese market and to build a factory there is cheaper than in Spain, the factory should be built in China.

The infrastructure investments of €300 m would cover 11% of the Chinese market. The company has enough money to build 2 such factories and a chance of a 22% market share.

A lot of money and effort would have to be invested in building networks and contacts so Nutripremium can engage the necessary distribution channels in China.

3. Competition

(From **192.1** and **192.2**)
Although the market seems promising in size and growth, assessing the competitive landscape should compel one to take a position against the expansion.

- Competition landscape for the products in China (monopolies, cartels)
- Special regulations or other entry barriers

- Market saturation

There appears to be a semi-monopoly in the market. The government seems highly involved as a shareholder in the main competitors. This does not seem like a good panorama for a competitor from abroad, aiming to steal market share from local players. Competitors are expanding capacity, which might lead to a decrease in market price (more offers).

4. Conclusion

A possible closing to this case could be:

I think Nutripremium should not expand to the Chinese market at this moment for three main reasons:

The competition seems to be fierce and government-controlled. The most prominent three players in the market hold 90% of the market share. The government has 49% of the shares of the most significant player, which would bring us disadvantages in many circumstances (getting licenses, paperwork, and bureaucracy for commercialising our products, among others).

Since we are producing near capacity, we would need to make new investments in infrastructure (build new factories). Although we have the money for that, doing it in a very different market from ours – where the customer's taste is different, and we have no experience manufacturing our products – could be a problem if we fail to adapt.

There must be other markets where the competition is more diluted among more players and where the market still has a big size and potential for growth.

Emerging countries in South America like Argentina and Brazil are good examples of possible candidates. The population also has more similar tastes to Europe than in China. The investment could yield a much better return in these countries.

Further Questions

Q: How many cancer patients would we need to have for our cancer product to break even?

A: We have 25 Sales Reps (earning €200 k each) and spend €10 Mn on other indirect costs. We assume each patient takes four doses per day for four months. A dose costs €1, and its profit margin is 20%.

We have a total cost of € 15 Mn (10 Mn + 200k x 25), excluding the direct costs of the doses.

The number of doses a client takes per year is 480 (4 x 30 x 4).

Since the margin is 20% for each dose, each customer means a profit per year of around €100.

We conclude that we need approximately 150,000 customers to break even on our cancer product.

Unsolved Case Problem 1 (Pricing, Profitability) — Bank Envelope

Problem Statement

Your client, Customlope, is the leader in the US secure envelope manufacturing industry. Banks buy these envelopes for operations such as money deposits and high-value transactions.

Next year, new digital technology will reduce the overall number of units sold in the industry by 25%. In the short term, our client wants to maintain his current profit level without investing in the new technology. How can you help him?

PrepLounge

Notes

- Customlope only sells ONE type of product Price: $1/unit.
- This year, Customlope sold 50 million units.
- Costs have already been reduced as much as possible.
- Customlope has excess capacity. It can produce at least double the number of units per year at similar or lower unit costs.

- Customlope's products are similar in quality and price to their competitors' products.
- This year, 100 million secure envelopes will be sold. Next year, this total will shrink by 25%.

Table 202.1 (Customlope's Cost Breakdown — Present)

	Costs ($ Mn)
Labour	11
COGS	18
SG&A	3
R&D	1
Marketing	2

192.1 (Market Share of Different Competitors)

- Customlope — 50%
- Safesend — 10%
- SendIt — 10%
- Fold — 10%
- Postet — 10%
- Securit — 10%
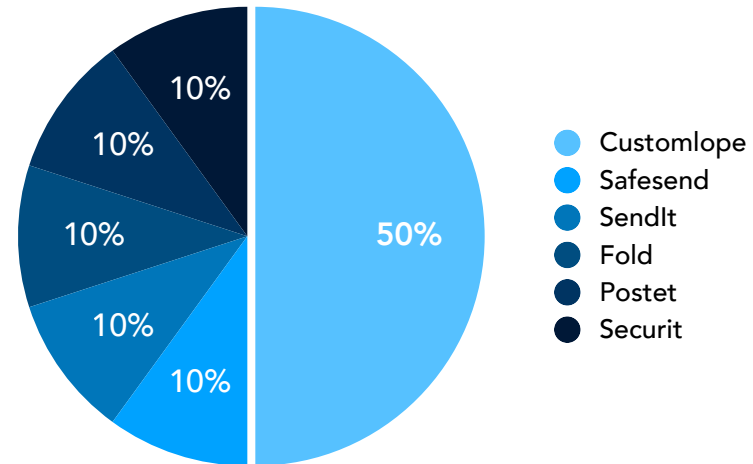
Since competitors do **NOT** benefit from Customlope's **economies of scale**, their **unit cost** this year is **$0.90 per envelope** (Customlope's is $0.70). Competitors cannot further decrease their unit costs.

Unsolved Case Problem 2 (Market sizing, Profitability) — Airport taxi

Problem Statement

Dubai Airport has decided to counter the chaos in the airport taxi service by commencing a bidding process to assign airport taxi services to 3 operators only. After years of cheating passengers, black-market drivers and unlicensed cabs, the airport has had enough of the problems and is now taking action.

They are retracting all existing permits and issuing 2,100 new licenses to the three largest operators in the country. Our client is a local Big-three taxi operator with a 3,000-car fleet but is not servicing the airport yet. The company has a spare capacity of 500 taxis and is considering applying for 500 new permits, but doesn't know if they will get a positive return on investment.

Help the client determine if they should pursue applying for the permits or not.

Notes

- Taxi operator has 500 taxis.
- The investment target is 20% ROI over a period of 1 year.
- The airport has **84 million passengers** per year.
- **20%** go into Dubai using a taxi, remaining 80% are transit passengers.
- Between 12.00 AM (midnight) and 6.00 AM, **50%** require a taxi (this considers multiple passengers sharing a taxi).
- Between 6.00 AM and 12.00 AM (midnight), the other **50%** require a taxi (this considers multiple passengers sharing a taxi).
- Night fares are **$80**.
- Day fares are **$70.**
- Taxis operate **24/7** - assume no need for fuel, maintenance or traffic jams.
- Every trip takes **60 minutes** to leave the airport and get back.
- Drivers get **50%** of the revenue instead of a salary.
- Operating costs are **$5,000 per cab per year**.
- License costs are **$250,000 per cab** paid in advance as a **one-time fee**.

Appendix

Glossary of Commonly Used Terms

NPS(Net Promoter Score)
Net promoter score is a widely used market research metric that typically takes the form of a single survey question asking respondents to rate the likelihood that they would recommend a company or a product.

$$NPS \; = \; \% \, promoters \; - \; \% detractors$$

Social Share of Voice (SSoV)
It is a way to measure how much people are talking about the brand on social media. It's usually calculated as a percentage of total mentions within an industry or a defined group of competitors.

$$Social \; Share \; of \; Voice \; = \frac{Your \; brand's \; advertising \; spend}{Total \; advertising \; spend \; in \; the \; market} \times 100 \, \%$$

FICO Score
Financial institutions and lenders use this to determine how much credit they can offer borrowers and at what interest rate.

Knowledge Process Outsourcing
KPO refers to outsourcing knowledge-intensive activities that are data-driven and encompass the process of gathering, managing, analysing and delivering objective insights into businesses.

Personally Identifiable Information (PII)
PII refers to any user data that could be used to distinguish one person from another. Standard PII identifiers include phone numbers, email addresses, social security numbers or mailing addresses.

Return on Ad Spend (ROAS)
It is a marketing metric that measures the efficacy of a digital advertising campaign. ROAS helps online businesses evaluate which methods are working and how they can improve future advertising efforts.

$$ROAS = \frac{\text{Total Campaign Revenue}}{\text{Total Campaign Cost}}$$

Client Retention Rate

It is used to measure the number of loyal customers, i.e. the customers who continued to purchase the product and are satisfied with it. The percentage of customers and revenue lost during a period is called the **Churn Rate**.

Client Lifetime Value (CLV)

It is the profit brought by a customer to the business, and in this way, the company can individually fulfil the need of the customer.

$$CLV = \text{Lifetime Value} \times \text{Margin}$$

Time Value of Money

A sum of money today is worth more than the same sum in the future, as it can earn interest in the meantime. A delayed investment is a lost opportunity.

Cash Flows

The term cash flow refers to the net amount of cash and cash equivalents transferred in and out of a company. Cash received represents inflows, while money spent represents outflows.

Free Cash Flow

It's the residual cash flow that's left over after all of the project's requirements have been satisfied, and the implications accounted for. It's the cash flow that can be distributed to the financial claimants of the company, debt and equity.

$$FCF = (\text{Revenue} - \text{Costs} - \text{Depreciation\#}) \times (1 - \text{tax rate}) + \text{Depreciation}$$
$$- \text{Capital Expenditures} - \text{Change in Net Working Capital}$$

- EBIT (Earnings before interest and taxes)

Free Cash Flow to Equity

It's the residual cash flow left over after all of the project's requirements have been satisfied, implications accounted for, and all debt financing has been fulfilled.

Present Value

The present value of a sum FV received in t periods discounted at a rate of interest r is given by

$$PV = \frac{FV}{(1 + r)^t}$$

The present value of a future stream of cash flows CF_t made at time **t** for a rate of return **R** for **n** time intervals is given by

$$PV = \sum_{i=1}^{n} \frac{CF_t}{(1 + r)^t}$$

Return on Assets (ROA)

It is a measure of how much profit a business is generating from its capital. If a company's ROA is 7.5%, this means that the company earns seven and a half cents per dollar in assets.

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Annuity and Perpetuity

An annuity is a finite stream of cash flows of identical magnitude and equal spacing in time.

$$PV = \frac{CF}{r}(1 - (1 + r)^{-t}) \text{ for constant annual payment CF.}$$

A perpetuity is an endless annuity.

$$PV = \frac{CF}{r}$$

A growing annuity is a finite stream of cash flows that grow at a constant rate and are evenly spaced through time.

$$PV = \frac{CF}{r - g}\left(1 - \left(\frac{1 + g}{1 + r}\right)^{t}\right) \text{ for constant growth rate g.}$$

A growing perpetuity is an infinite stream of cash flows that grow at a constant rate and are evenly spaced through time.

$$PV = \frac{CF}{r - g}$$

Discount Rate/ Rate of Return
Factors like inflation and taxes influence r, i.e. the rate of return/discount rate. In the case of inflation, where the inflation rate is given by I, the inflation-adjusted resultant rate of return, say RR, can be calculated as $RR = \frac{1 + R}{1 + i} - 1.$

In the case of taxes, if the rate of taxation is t, then the resultant rate of return is RR = R (1 - t).

Net Present Value
NPV is simply the difference between the present value of cash inflows and outflows. It is a metric used to determine whether an investment is profitable. Investments with negative NPVs

are avoided. The formulae remain the same as PV's; however, we take the net cash inflow-outflow or the free cash flow in this case.

Net Present Value Rule
The NPV Rule recommends making only investments with a positive net present value.

Internal Rate of Return(IRR)
The internal rate of return is the discount rate, which would equal the NPV to zero. It helps to identify the annual growth rate. A high IRR is desirable for investment.

Net Profit Margin
It is the ratio of net profits to the revenue expressed as a percentage. It represents how much of each dollar collected in revenue translates into a profit.

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Total Revenue}} \times 100$$

Break Even Point

In accounting, it refers to the production quantity where the total production revenue compensates for production costs.

Return on Investment (ROI)

ROI indicates the total growth of an investment over a period of time. The ROI is the net profit expressed as a percentage of the initial investment.

$$\text{ROI} = \frac{\text{Return} - \text{Cost} - \text{Investment}}{\text{Investment}} \times 100$$

Compounded Annual Growth Rate(CAGR)

Given the amount invested today and its expected value in the future, CAGR is the rate of interest at which the investment will have to be compounded to give the expected future value.

$$\left[\frac{\text{Final Value}}{\text{Beginning Value}} \right]^{(1/t)} - 1$$

Profitability Index

The profitability index is an index that attempts to identify the relationship between the costs and benefits of a proposed project through the use of a ratio calculated as:

$$\text{Profitability} = \frac{\text{PV of future cash flows}}{\text{Investment}}$$

A ratio of 1.0 is logically the lowest acceptable measure on the index, as any value lower than 1.0 would indicate that the project's PV is less than the initial investment. As values on the profitability index increase, so does the financial attractiveness of the proposed project.

Initial Investment

The initial investment is the amount required to start a business or a project. It is also called initial investment outlay or simply initial outlay. It equals capital expenditures plus working capital requirement plus after-tax proceeds from assets disposed off or available for use elsewhere.

APR vs EAR

APR, or the Annual Percentage Rate, measures the simple interest earned in a year.

The EAR (effective annual rate) measures the actual amount of interest earned or paid in a year. We use the periodic interest rate as R in all our calculations.

$$R = \frac{APR}{k}$$, where k is the number of compounding periods in a year.

$$EAR = \left(1 + \frac{APR}{k}\right)^k - 1$$

$$EAR = (1 + R)^k - 1$$

Capital Asset Pricing Model (CAPM)
The market rate of return is the return the company could receive by investing in a well-diversified portfolio of stocks. The discount rate can be calculated as:

$$r = r_f + \beta(r_m - r_f),$$

where r is the discount rate,

r_f is the risk-free rate of return,

r_m is the market rate of return, and

β is the calculated market risk of an investment.

Bounce Rate

The bounce rate is the percentage of people who come to the landing page and leave without browsing further or clicking elsewhere on the company's website.

Key Performance Indicator (KPI)

KPIs provide targets for teams to shoot for, milestones to gauge progress, and insights that help people across the organisation make better decisions.

Business Process Reengineering (BPR)

It includes reviewing a client's business processes, eliminating unneeded or 'non-value-added' tasks, and implementing a leaner, more efficient strategy.

Making Amazing Slide Decks

1. **Consistent Storyline and Flow**

   - Story Telling is the foundation of a good slide deck.

   - Make the presentation a cohesive unit, where it ceases to be individual slides or different ideas.

   - Viewing your presentation as a story that has clear characters, conflict, and resolution will help generate a throughline in your presentation and solidify it as a cohesive unit. Consider how the information moves the story forward on each slide and figure out how one slide leads into another.

   - Try using specific tabs at the bottom or sides of the slide to depict flow.

2. **Extensive User and Industry Research**
   As a good Consultant or Product Manager, the main aim should be to present a comprehensive report on user and sector research. It can be achieved by following the given steps:

   - Identify the problem.

- Correctly recognise the relevant factors.

- Gather the correct type of information using secondary research or surveys.

- Analyse the information gathered and find out insights.

- Make a fitting conclusion.

3. **Design and Visual Appeal**

- Maintain consistent formatting and margins in the entire deck.

- Keep it light on text!

- Try to use pictures/charts to express your data or ideas. Graphics and charts explain the insights better than words.

- Keep the content directional.

- Use Selective Bolding to stress an important term and ensure to use clear headlines for the readers' convenience.

4. **Executive Summary and Appendix**

- The executive summary slides should only be 5% - 10% of the entire presentation's length. Make the executive summary focused and simple by using short paragraphs or bullets and subheadings.

- Summarise the presentation by introducing the client and its pain points. Summarise your solution and the flow of the presentation.

- Highlight the key results, including 1 or 2 statistics that drive home the takeaway message.

- Mention the source in the footnotes and include an appendix to show all the research, calculations and basis of insights.

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