IIT INDIAN INSTITUTE OF TECHNOLOGY
BANARAS HINDU UNIVERSITY

THE BUSINESS CLUB
SCIENCE AND TECHNOLOGY COUNCIL
IIT(BHU) VARANASI

The Business Club, IIT BHU, Varanasi

Presents

Case Book 2020

"the firms are still looking for the four key things: structure of thought, confidence level, communication skills, and creativity."

CASEBOOK

(The Business Club, IIT(BHU) Publication)

(A placement preparation guide to help you ace those high-pressure case interviews)

(CASEBOOK-Edition 1)

FOREWORD

The Business Club was established, keeping in mind the need of the students who wanted to test their business acumen by venturing into fields like consulting, analytics, and finance. Over the years, the Club has continuously evolved by learning, unlearning, and relearning to provide the best possible resources and experiences to the students and make them as prepared as possible for the challenges of different competitions and also the campus interviews.

This Casebook is one more step in that continuous process and a milestone in our Club's short history. While the Club has been there for some time now, Casebook is the first of its kind initiative taken up by my contemporaries who have put invaluable efforts to help their counterparts prepare for but not limited to their placements.

I believe this Casebook will be of immense help for those who wish to get a first-hand feel of the case questions asked for a variety of job roles in our campus and the scenarios under which they have to think, perform and act. This will help them to learn the skill of problem structuring and solving and become more confident with their presentation and articulation process.

I want to thank my contemporary Pratyush and my excellent juniors for putting in the efforts and continuing the Club's legacy of always being willing to experiment and improvise and adapt to the changing needs of the students.

Swapnil Shukla
Former Secretary
The Business Club
IIT(BHU) Varanasi

OUR JOURNEY AS A CLUB

We cannot stress enough on the importance of fully functional clubs and committees. For us, it was all about bringing a new culture on the Tech campus and bring people who share similar interests. It started in 2016 when ***The Club of Economics and Finance*** was born. We are from the CEF era where the Club has just begun to gain some traction. As the CEF junta grew, there were discussions about data science, consulting firms, product management. These led us to question who we are as a Club and what exactly is our focus. Hence, we planned to diversify the Club discussions, and ***The Business Club*** came into existence.

The Biz Club era members have worked very hard and dare I say, much better than us. They have been able to fulfil the major objective of Club: to build a group of interested folks in constant meaningful interaction. The stellar performance in Inter IIT Tech Meets is something to show. They also made sure to keep the Biz culture alive in the campus through guest lecture series - Mavericks, intra fresher extravaganza - BASH, various workshops and boot camps

The people who have made this compendium are of the Biz Club era. You have seen them delivering, give them a chance again.

- CEF era Members

The Club was started with just a handful of folks to foster a community for business enthusiasts. Back in 2015, the only business-related event used to be the ones in Technex. We knew that people were interested in business, finance, and economic domains and wanted to create an opportunity for students to come together and hone their skills; hence The Business Club (erstwhile CEF) started.

It brings me immense joy to learn that the Club has evolved from those early days to have summer boot-camps, Mavericks series, numerous competition victories and now our very own case book!

I am really proud (and envious) of The Business Club team and look forward to hearing more amazing news from you guys.

Arun Kumar
Associate Manager, Ola
Former Secretary, The Business Club

ACKNOWLEDGEMENT

We are grateful to the people who shared with us their placement experiences and enabled us in putting together this comprehensive documentation. We would want to thank Ashwin Shrivastava and Pratyush Choudhury for taking this initiative and putting together the first edition of the Casebook. The Casebook was compiled and edited by the members of The Business Club, IIT (BHU) with Ashwin Shrivastava, Aayush Khandelwal and Hritwik Singhai at the helm.

This book is dedicated to all our esteemed alumni who helped us in creating this compilation of business and placement interview questions. This compendium would not have been possible without the formidable contribution of the Club members and their diligence.

The Business Club
IIT(BHU) Varanasi

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BEFORE YOU ENTER THAT ROOM

THE PLACEMENT ESSENTIALS

INTRODUCTION

"the firms are still looking for the four key things: structure of thought, confidence level, communication skills, and creativity."

Being able to crack cases is a must requirement to get past almost all interviews. Once you get in front of the interviewing panel, everyone is on the same ground and stands an equal chance. This is when your efficiency and ability to solves cases come into play. Solving cases is a much-needed skill and can be learnt with sufficient practice.

Understanding the case, using a structured approach, striking a confident and friendly conversation, not going haywire with the guesstimates, having a comprehensive knowledge of frameworks are some of the factors that define whether you succeed in solving a case or not. And one needs to practice and practice, until those big terms mentioned before start coming naturally to you.

The Casebook aims to provide the reader with a comprehensive understanding of the type of cases that form a significant part of placement interviews. This book comprises of cases, guestimates and testimonials along with a wide range of articles on statistics, topics for group discussions, relevant resources and other helpful reads. The Business Club is putting the Casebook in the public domain, hoping that this helps the readers come one step closer to their dream jobs.

We would suggest that the readers discuss the interview transcripts in pairs or groups to help understand the interview room conditions. The cases should be solved on their own, and the solution should be looked to have a broader understanding and analyse the areas of improvement. The cases have the 'approach by the interviewee' mentioned, or if not, a 'suggested approach' has been stated.

The frameworks are also mentioned at the end to give an initial direction to readers who are starting new. They are no hard and fast rules but are used to provide a logical structure to any case that comes up. The reader should leverage the suggestions and advises mentioned and apply the learnings to future cases.
The journey to solve a case is as and sometimes even more important than the final destination, the solution.

Enjoy the preparation and All the best!

The Business Club
IIT(BHU) Varanasi

COMPANY, CASES AND MORE

CASES

| | ROOT CAUSE ANALYSIS | |

Case-1 | | Flipkart APM - Round 1 | | Root Cause Analysis

Problem: What are the key metrics that you should track to measure the growth and performance of the Instagram app?

--Approach by interviewee--

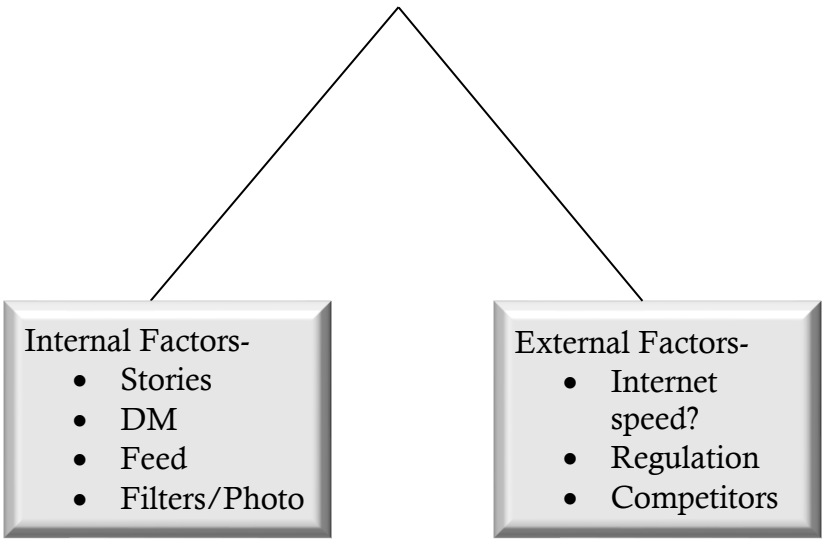
Solution: Identifying key stakeholders - Content creators, Readers, and the platform itself. CTR, time spent on the platform, MAU.

Interviewer: MAU has been constant but DAU has declined.

Inference:

- More new users or people already using Instagram are spending less time on Instagram.
- Make the platforms more sticky –
  Factors controlling the user experience on the platform-

DAU/MAU =
Stickiness of the platform



Case-2 | | Flipkart APM - Round 1 | | Root Cause Analysis

Problem: Dominos is not able to deliver its pizza in 30 minutes. The number of successful orders is decreasing.

--Approach by interviewee--

Interviewee: Why was it a problem?
Interviewer: Refund policies.

Discuss the various platforms on which Dominos is delivering- food delivery services, call line delivery, and their app. The case is inclined towards Root Cause Analysis.

Interviewee: Which platform is suffering from major losses?
Interviewer: The app.
Interviewee: What market is suffering most?
Interviewer: Tier-II and Tier-III cities

--Suggested Approach--

We now have sufficient knowledge about the context of the problem. Now control is in your hands. There is a chance that you may go blank here. Go for an end to end journey of the process; even if you can't find problems, you can at least enlist factors which will reflect your structured thought process.

Preparation Time at the store.	Time interval between order completion and pick up by delivery boy at store.	Time lapsed between pick up and order delivery to the given location.

Horizontally scale these components of delivery. Go in-depth at each component one by one according to the need and instruction of the interviewer. Ask for relevant comparisons like (Avg preparation time at Tier 2 city as compared to Tier 3), enlist factors which might be contributing to the cause of delayed delivery. Prioritize the list and work on the solution with the interviewer on them.

Case-3 | | Flipkart APM - Round 1 | | Root Cause Analysis

Problem: Profile views of LinkedIn's high-profile persons are decreasing. Give a root cause analysis of this problem.

--Approach by interviewee--

Interviewee: (Clarifying Question) What do you mean by searching a profile, are you talking about how a person can search a profile?
Interviewer: Yes, mainly Google Search and Direct LinkedIn

Interviewee: Okay. So first is direct search within LinkedIn. Second, when a user comes across somebody's profile in feed and sends a request. Third, when the user searches them in Google and views their profile. Are there any other areas that you want me to focus on?
Interviewer: No, and keep your analysis limited to direct searches within LinkedIn App/Website.

Interviewee: Can I open the LinkedIn app to analyze the product (LinkedIn)?

Here the candidate discovered QR code present beside Search Bar, which is used for Searching profiles, via scanning other persons QR code of their profile.
Next, the candidate made a user journey, to understand the touchpoints and possible flaws that might have led to a decrease in profile views.

Interviewee: Let me first analyze for User 1 - Opens app, goes to the search bar, then clicks on it, and the keyboard appears. The keyboard might be taking a lot of time to open up, which might have increased drop-off rate, do we have data to clarify that?
Interviewer: Yes, we have data. But in this case, the keyboard is working fine.

Interviewee: Next User 1 starts typing name in the search bar, and as soon as you type name suggestions start to appear below.

Now there are a variety of ways in which suggestions appear:

- Connection type: First, Second or Third connection
- Industry relevance to the user searching for a profile
- The number of suggestions kept for companies at the bottom, is that more than required?
- Number of suggestions kept for LinkedIn Groups
- Alumni of same college/company
- Job profile similarity, i.e., how similar is suggestions job profile to the user's current job profile who is searching
- Position of highly active and high-profile persons in suggestions with respect to others.

Candidate asked niche questions whether any one of these parameters had problems that might have affected the decrease in profile views. The interviewer said this wasn't the case.

Interviewee: Next, User 1 types the name of the person and presses enter. Here many users make mistakes in typing the correct spelling, is the autosuggest providing the correct name in results, which could be checked if users are typing more on the search bar but not clicking or sending requests at the same rate as before. Do we have data to know whether that is the case?
Interviewer: The rate at which users search and send profile requests has declined a bit.

Interviewee: Is there a case that a LinkedIn algorithm has started showing more high-profile accounts to premium users over non-premium users?
Interview: No, both users are shown profiles without any bias.

Interviewee: Is the decrease in profile views specifically towards any gender - male or female?
Interviewer: No, the decrease has been consistent for males and females.
Interviewee: Are there any specific sectors like agriculture, IT, Investment, PSU, entrepreneurs, etc. whose profile views are decreasing?
Interviewer: Yes, the main decrease is in the IT sector and the Government sector.

Meanwhile, the other user journey made by the candidate was of User 2 who came across a LinkedIn profile in feed, via post or a mutual connections interaction with the post. After a few questions, the Interview asked to focus more on User 1, so the candidate followed instructions.

Interviewee: Since the platform is witnessing a decrease in profile views of high-profile people belonging to public/government sector, I would like to know whether there has been political turbulence in the country previously which might have caused a trigger in profile views for a period in the past, but has now pushed back the number to normal range (apparently a decrease in a relative term as compared to past).

Interviewer: Yeah, we had elections six months ago.
Interviewee: I guess elections caused a sudden spike earlier, which has resulted in a decrease in relative terms.

So, the main reason that came out was that there are elections going on, so people related to the government directly or sometimes indirectly were observing a decrease in profile views.

| | PROBLEM SOLVING | |

Case-4 | | Flipkart APM - Round 1 | | Problem Solving

Problem: Flipkart wants to enter tier 2 and tier 3 cities. It is facing problem in establishing trust among people of tier 2-3 cities. How do you build trust among people?

--Approach by interviewee--

Solution: Asking clarifying questions on what exactly – "Trust" is for the company.
Comparing offline and online channel in tier-2/3 cities.
Advantage of offline retail store over online channel:

- Touch and feel
- Credit
- Easy returns
- In store experience

Interviewer: Before moving forward can you tell me how we can measure "trust", explain trust as a metric?

Interviewee: Number of parameters can be used on a weighted scale to measure consumer trust. Some parameters that can be clubbed together to measure trust-

- People completing necessary details (mobile no., address) / total number of installations.
- People preferring advance payment / people preferring COD.
- Consumer retention.

To establish Trust > We can create a social network on Flipkart on which we can add our friends and relatives. Also, the reviews on Flipkart are of some unknown people and people of these cities have a hard time to trust them. Also, in tier 2 and 3 cities peer pressure is the driving key and when their friends and family will buy from Flipkart, we can send them to push notification, this will strengthen their trust on our network.

The second idea that I proposed was, having a voting feature where the users' friends can vote whether which product should they buy. This will also increase user retention on the app.

Case-5 | | Flipkart APM - Round 1 | | Problem Solving

Problem: The delivery conversion of Flipkart is reducing, identify the possible reasons behind it and suggest the possible solutions.

--Approach by interviewee –

Interviewee: Are we talking about the same Flipkart company.
Interviewer: Yes

Interviewee: What is considered a complete delivery? If an item is delivered on the second attempt is that is a complete delivery?
Interviewer: Yes, any item that gets delivered either on first attempt, or second attempt, or third attempt all are considered complete.

Interviewee: Do we have any data of the percentage of delivery made in first attempt to third attempt?
Interviewer: For reference, you can assume 30% on first attempt, 40% on second attempt and 20% on the third attempt.

Interviewee: Okay, now I will start making the complete user journey, from the time of ordering an item until it gets delivered.

User journey of buyer:

- Opening the Flipkart app
- Logged in or not
- Searching product (either hamburger menu, or homepage, or search bar)

- Selecting the product
- Mode of payment (Here candidate missed out on COD: Cash on delivery)

User journey of delivery agent:

- Goes to the warehouse/ hub
- Collects the items to be delivered
- Checks the item inside the bag
- Goes to the given pin code and delivers the item
- For receiving payment, uses POS (Point of Sale) machine or signature in case of online payment.

After this the interviewee asked a series of questions based on all the touchpoints in the user journey, to understand whether any one of these might be the reason for incomplete delivery, like the failure of POS machine.

The interviewer later pointed out that the candidate had missed COD and the geographical location of the user where the item needs to be delivered.

Note: The Interviewer wanted candidate to focus a bit more on geographical location and the Kirana boys who were used to cover last mile in delivery. Many new orders from Tier 2/3 are being made every day, for which the Google maps don't have a proper route, but the local Kirana boy knows the address (locality) well.

|| PRODUCT DESIGN ||

Case-6 || ZestMoney || Product Design

Problem: Design an alarm clock for the blind. Design it from end to end - From research, planning to the launch.

--Suggested Approach--

Good practice involves asking clarifying questions on various terms used in the case to ensure that you are on the same page as the interviewer.

Start with definition of blind:

- Are we considering our target pool comprising of totally blind or partially blind+ totally blind people?
- Can a blind person hear / speak / recognise language? (In some cases, blind people can't interpret language).
- Physical product / Digital product?

Do ensure you don't end up wasting time on asking too many questions. Lay down suitable assumptions in case you feel something is still missing or needs to be known.

A good approach to this case can be found in the book ***Cracking the PM Interview*** by Gayle Laakmann Mcdowell.

Case-7 || Flipkart APM - Round 3 || Product Design

Problem: Design a product for reseller application for Flipkart. (Similar to OLX where one user lists an item, and another user can purchase it.)

--Approach by interviewee--

Interviewee: By reselling is Flipkart trying to resell every product, or are they trying with some selected products to start with?
Interviewer: You can assume we are starting with selected products, like books, mobile phones, and laptops.

Interviewee: Are you looking to build a separate product(app) for reselling, or do you plan to integrate into the existing product?
Interviewer: We plan to integrate into the existing product.

Interviewee: So here let me analyze by making two user journeys. User A who wants to list product on Flipkart, and User B who plans to buy resell product through Flipkart.

For User A, he would first need this feature to be discoverable. Do you plan to keep in the hamburger menu or any other specific location?
Interviewer - No. You have the liberty to decide where you want to place it.

Interviewee: Okay, so let us say we place it once in the hamburger menu and other in the homepage section of the app. Later the user would click on it to put the item for sale.
Here Flipkart will ask for details

- Name of the Product
- Category
- Year of Purchase
- Condition as per user (this would be mandatory, to later understand the authenticity of the seller)
- Details of all the original components at the time of first buying

- Pictures from 4 side angles and one top angle.
- Name of the seller (User A), contact details, and identity proof.
- Price at which they want to sell (with an option to browse similar products listed on Flipkart to get an idea of the pricing)
- Payment details (for paying after the product is sold)

Interviewer: Okay, this looks good. What about the User B?
Interviewee: Yes, let us consider that User B. Again, the user would come on the platform and try to discover where such a feature exists. If he is unaware of this feature, the section on the homepage might introduce it to this reselling feature.

The next user would click on it; a new section with all reselling products would be listed. Below each image, there would be the name of the product, price, date of purchase, locality of User A.

After clicking on the product, the user would see the catalogue of all images of the product, a button to chat with the seller, details of the seller (should include whether the seller is Flipkart verified or not), and a buy button.

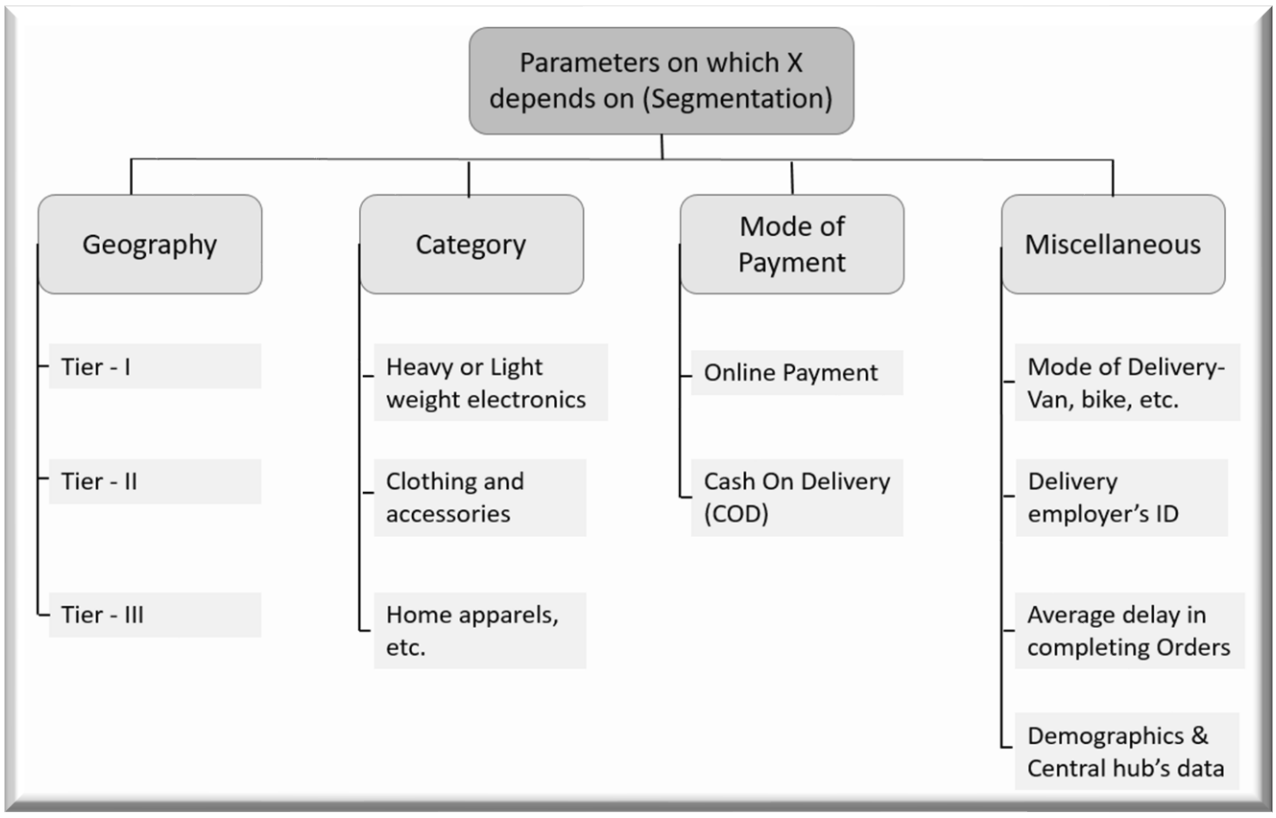
Case-8 | | Flipkart APM - Round 4 | | Product Design

Problem: Create a dashboard for identifying the reason for - decrease in number of "completed deliveries".

--Approach by interviewee--

Interviewer: Tell me high levels data that you want? And in which particular order?
Interviewee: How do you define a completed delivery?

Interviewer: Completed delivery means, item is received by customer and payment is done.
Interviewee: Ok, let X = no. of completed delivery(order)/ total delivery(order)



Based on the above classification we can create mappings where "completed deliveries" are decreasing.

For example, if high level data suggest that in Tier 2 cities deliveries which aren't completed fall under Homer apparels whose mode of payment is COD

So: Tier 2 > Home apparels > COD: These kinds of mapping will help us track down paths where deliveries aren't getting completed and then from this list, we can prioritize our mappings to ensure quality control.

Case-9 || Flipkart APM - Round 4 || Product Design

Problem: Flipkart generally hires more delivery boys during the sale period. They generally sit idle for a non-sales period. They are trying to set up a B2B arm where Flipkart delivery boys can work for other startups and MSME to deliver their items and charging them accordingly. Design a webpage for this service.

--Suggested Approach--

Target Group (TG) > MSME and other startup needing delivery boys.

These can be further classified on the basis:

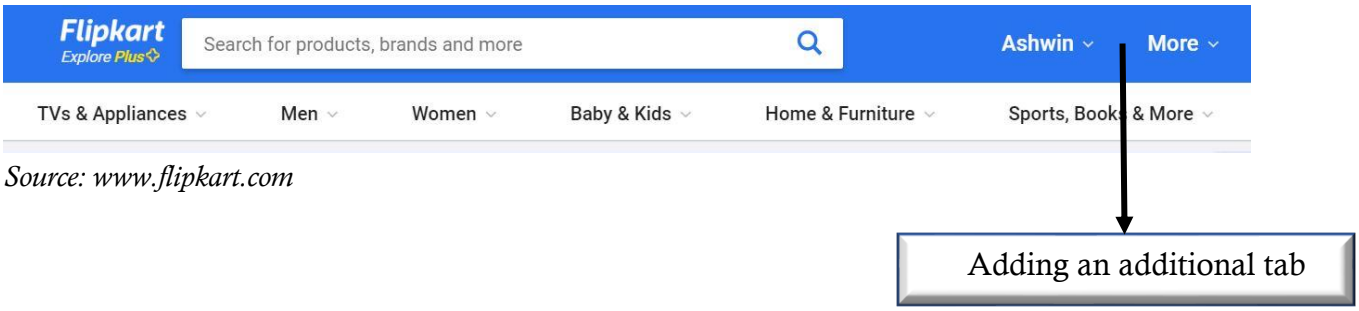
- Grocery
- Online Retail
- Local Marts
- Parcel and packer

Since Flipkart is able to deliver items in almost all of the above-mentioned categories, we can effectively target every business that needs to deliver one place to another.

Since focus of company is in utilizing the potential of self-owned delivery network with large fleet to generate additional revenue, priority metric while designing webpage should revenue/revenue growth rate.

Let's start with designing.

We first need to web channels to bring potential customers to landing page of website. SEO friendly website, presence on official networks like LinkedIn can boost visibility of page to its TG. Additionally, we can leverage company's existing webpage to bring traffic to our page.



Source: www.flipkart.com

Initially tab has to be visible enough for people to recognize the feature and then we can club this tab under *more* tab.

Main page: Design for the main page - scrolling/static? Listing features and content on the main page > prioritizing features > additional features.

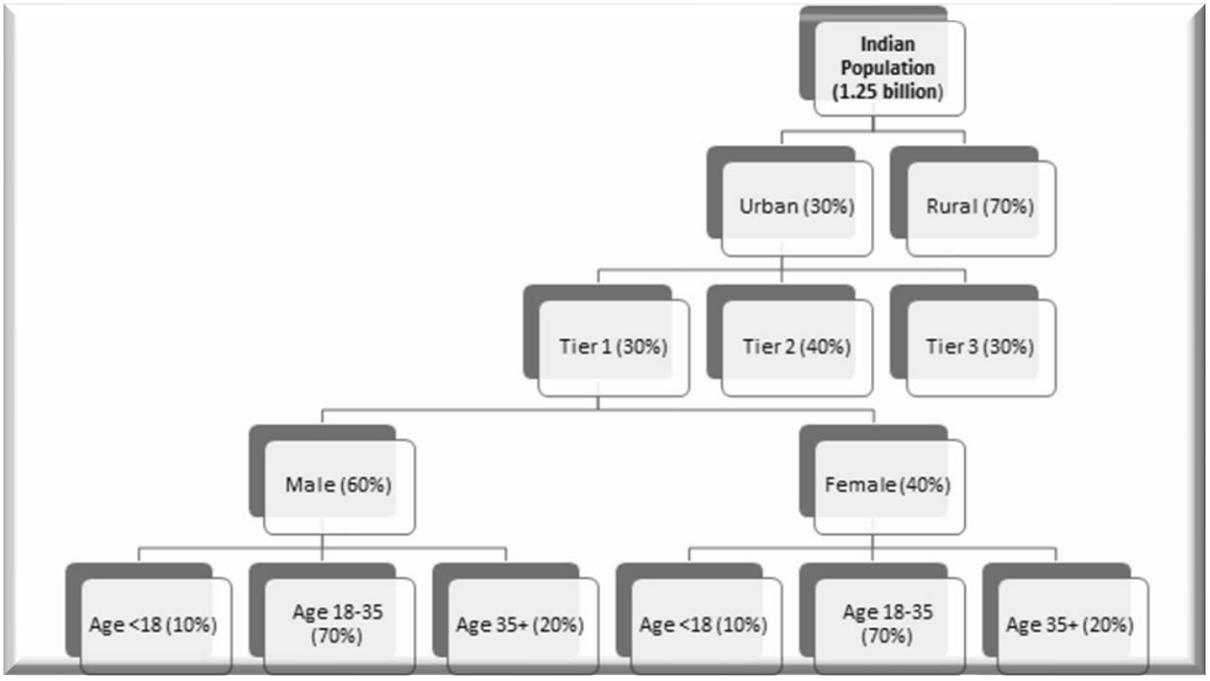
Metrics to check the performance of the page: bounce rate/ avg time spent on page/ conversions etc.

| | MARKET ENTRY | |

Case-10 | | Flipkart APM - Round 2 | | Market Entry

Problem: Flipkart wants to enter the pharmacy market in tier 1 cities to increase revenue and to increase profits. According to the interviewer, medical equipment, additives (Example: Horlicks, complain etc.) do not come under pharmacy. After being asked whether it will be an existing category, or will have a separate section on the app, the interviewer said that a new category would be added on app. Do the guess estimate of this industry and what factors will decide whether Flipkart should enter the market.

--Approach by interviewee--



Assumptions:

- For the customers, I assumed that for men and women, the demands would be different.
- I assumed that the least number of customers will be in the age group <18. For men, only 10% of this population would be our customers. For

females, the puberty age is around 11, so, 20% of this segment would be the customers.

- Since India is a young country, I assumed that 70% of the population of tier 1 cities would be in the age range 18-35. For males, they intake protein capsules and a lot of other stuff, so we consider 40% of this population would be our customers. For females, we consider 50%.
- For 35+, there is maximum demand and this segment makes most of the customers of the pharmacy market. For males and females, we take 80% of this population to be customers of the pharmacy market.

Calculation:

- Urban population= 30% of 1.25 = 0.375Bn
- Tier 1 population= 30% of 0.375 = 0.1125Bn
- Male population in Tier 1= 60% 0f 0.1125 = 0.0675
- Female population in Tier 1= 40% of 0.1125= 0.045
- Male: Customers= 0.030375Bn

Age group	%age notation	Customers (Bn)
<18	10% of 10% of 0.0675	0.000675
18-35	40% of 70% of 0.0675	0.0189
35+	80% of 20% of 0.0675	0.0108

- Female: Customers= 0.02385Bn

Age group	%age notation	Customers (Bn)
<18	20% of 10% of 0.045	0.0009
18-35	50% of 70% of 0.045	0.01575
35+	80% of 20% of 0.045	0.0072

- Total customers= 0.054225Bn

If we consider three types of medicines:

- Regular usage= Rs 500/month
- Normal usage (cold, cough etc.) = Rs 500/month
- Serious disease medicinal usage (diabetes etc.) = Rs 2500/month

Average medicinal expenditure by each customer (annual) = (500+500+2500) *12/3= Rs 14000

Approximate size of Pharmacy market open for Flipkart = Rs 14000*0.054225 = Rs 759.15Bn

Important factors which will decide market entry:

- Customer Behaviour:
    - Comparison between online and offline.
    - Difficulty in input medicines prescribed by a doctor because of their poor writing.
    - Trust on the local pharmacist.

- From company's point of view:
    - Extra cost would be involved. Depends on how much Flipkart wants to invest.
    - Strength (e-kart will take care of logistics)
    - Weakness (do not deliver perishable items much)

- Competitor and Product:
    - At present Flipkart do not have that much stable competitor.
    - Medicines are perishable and their packaging must be different than other products with much more detailing about the product on it.
    - Regulations

Case-11 || Flipkart APM - Round 2 || Market Entry

Problem: Analyse whether Uber should enter into private carpooling in India.

--Approach by interviewee--

Interviewee: (Clarifying Question) By private carpooling, do you mean - Suppose you have a car and you are traveling to a location, now you can use Uber to list your car and share ride with some other individual who has a similar path, and earn some money through it. Am I on the correct lines?
Interviewer: Yes, you are going in the correct direction.

Interviewee: What specific metric/objective is company trying at achieve by entering into this market?
Interviewer: Company is looking to increase its user base.

Interviewee: Are there any competitors currently in this space?
Interviewer: Yes, there are (and names some competitors in that space).

Interviewee: How is their growth in that space, or are they moving towards graveyard?
Interviewer: No, this is not moving towards the graveyard.

Interviewee: How many cities have they launched in?
Interviewer: Mainly in Tier 1 cities and some are experimenting with few Tier 2 cities.

By asking a variety of questions about competitors, the candidate wanted to assess whether the space of pirate carpooling is attractive enough to be invested or not.

Interviewee: Are we planning to launch pan India or in a specific location.
Interviewer: Let us docs on Delhi for now.

Interviewee: Okay, let me now make a user persona to understand the market share.
Supply (Users who will list their cars on Uber): Somebody who is trying to earn extra income, drives a car, belongs to the middle class.

Demand (Users who will book these cars from Uber): Looking for ways to commute, trying out Uber pool because the price is comparatively low.

Cars available for Uber private pool (guestimate): To figure out the number of cars available for Uber private pool, using standard guestimate approach, easily available in various books.

Interviewee: To analyze the active users who would be using the service of Uber private pool, do you want me to consider both Uber and Uber private pool
Interviewer: No, let us assume Uber is launching for the first time and only offers Uber a private pool.

Next, to calculate the growth of the market, the candidate used the population as a reference. Assuming that if the current population is X and that attributed to Y number of active users, then when the population grows by a certain percentage, the active users would grow in proportion to that.

Finally, the conclusion was that it is a good market to enter for Uber.

Case-12 || Flipkart APM - Round 2 || Market Entry

Problem: Flipkart's entry into the food delivery business- Suggestion? Factors to consider?

--Suggested Approach—

Solution: ***General 3C 1P approach. (Company, Customer, Competitor, Product)***

Ask clarifying questions- delivery of prepared food or packaged food.

- Analyzing current market (Food delivery market).
- Analyzing company (requirements, aligning vision with current market entry).
- Planning an entry (through user journey).

Case-13 || Mastercard Advanced Analytics || Market Entry

Problem: An investor is planning to relaunch Kingfisher airlines. What parameters would you consider and should he pursue the idea?

--Approach by interviewee--

Interviewee: Since no data is available so let's start with a guestimate about total market size of airline industry in India.

It is advisable to keep an idea of cities belonging to T1, T2 and T3 cities for guestimates.

Under the recommendation of the Sixth Central Pay Commission, the CCA classification was abolished in 2008. The earlier HRA classification of cities was changed from A-1 to X; A, B-1, and B-2 to Y; and C and unclassified cities to Z.[2] [3][4] X, Y, and Z are more commonly known as Tier-1, Tier-2, and Tier-3 cities, respectively.

On the basis of the 2011 census, 2 cities—Pune, Ahmedabad—were upgraded from Y to X and 21 cities from Z to Y on 1 April 2014.[5][6][7]

HRA classification	City
X	Ahmedabad, Bangalore, Chennai, Delhi, Hyderabad, Kolkata, Mumbai, and Pune
Y	Agra, Ajmer, Aligarh, Amravati, Amritsar, Asansol, Aurangabad, Bareilly, Belgaum, Bhavnagar, Bhiwandi, Bhopal, Bhubaneswar, Bikaner, Bilaspur, Bokaro Steel City, Chandigarh, Coimbatore, Cuttack, Dehradun, Dhanbad, Bhilai, Durgapur, Erode, Faridabad, Firozabad, Ghaziabad, Gorakhpur, Gulbarga, Guntur, Gwalior, Gurgaon, Guwahati, Hamirpur[disambiguation needed], Hubli–Dharwad, Indore, Jabalpur, Jaipur, Jalandhar, Jammu, Jamnagar, Jamshedpur, Jhansi, Jodhpur, Kakinada, Kannur, Kanpur, Kochi, Kolhapur, Kollam, Kozhikode, Kurnool, Ludhiana, Lucknow, Madurai, Malappuram, Mathura, Goa, Mangalore, Meerut, Moradabad, Mysore, Nagpur, Nanded, Nashik, Nellore, Noida, Patna, Pondicherry, Purulia Prayagraj, Raipur, Rajkot, Rajahmundry, Ranchi, Rourkela, Salem, Sangli, Shimla, Siliguri, Solapur, Srinagar, Surat, Thiruvananthapuram, Thrissur, Tiruchirappalli, Tiruppur, Ujjain, Bijapur, Vadodara, Varanasi, Vasai-Virar City, Vijayawada, Visakhapatnam, Vellore and Warangal
Z	All other cities

Source: Wikipedia

	Tier 1(a)	Tier 1(b)	Tier 2	Tier 3
Number of airports	4	4	105	100
Frequency (flights/ day)	50(per hr) * 24 = 1200	2(per hr) * 24 = 48	8	2

Total flights operating in India on per day basis= (1200*4 + 48*4 + 8*105 + 2*100) ~ 6000
Total flights per year = 6000*365 = 2,19,000
Total passengers per year = 2,19,000*100 ~ 219 million

Interviewee: Now let's focus on market constraints, from existing airlines- Indigo (~30% mkt share), SpiceJet (~30% mkt share), Air India (~20% mkt share) etc.
There's already a tough competition among major players like Indigo and SpiceJet and other smaller players are bleeding cash to acquire market share.

Let's say Kingfisher do manage to acquire 5% mkt share over 1 year. Then expected revenue after year = 3% * 21.9Cr * 5000 (Avg tckt price) = 3285 Cr

Projections for 2nd year would be demotivating because increasing market share from 5% would mean cutting away chunks of revenue, which would translate

into ~0 YoY growth in revenue with ever increasing crude price, capital and cost.

Interviewee: Let's say it does enter the market, how do you plan to take the airlines in market? Since Kingfisher has a bad image in India, so do you want to relaunch it as Kingfisher or do you want to rebrand it? Also, if you wish to launch it as Kingfisher do you aim to launch it as a newer version of Kingfisher - a new, young and bold version?

(Interviewer told Candidate, to assume any case that feels correct.)

Since establishing entirely new brand in aviation industry is daunting and gradual task, you have to win trust of people and restabilising old brand would mean negative public sentiments towards brand.

Interviewee: In conclusion - Based on the parameters of, constraints to entry, bad reputation in the market, huge capital requirements and limited sources of revenue.
Candidate suggested that Kingfisher should not be relaunched in the market.

Case-14 || Flipkart APM - Round 3 || Market Entry

Problem: Flipkart plans on launching shoes, how should they go about it?

--Suggested Approach--

Start by asking clarifying questions:

- Category of the shoe (High end/Low end) they are planning to launch?
- Target group?
- Self-owned brand or some kind of collaboration?

Let's say for this case Flipkart wants to high-end self-branded luxury shoe market in India.

Generally, for market entry cases, the first step should be to get clarification and details on the company's objective to enter the new market. The objective of market entry can vary from company to company depending on the segment and the competitive landscape they are operating.

After gaining enough knowledge on the objective we can assess the market scenario to see if we can match objectives with inferences based on market analysis. Some estimates you can work on to test your hypothesis:

- Guesstimate for the market size of given product.
- Competitors and market share estimates.
- Innovation, recent changes in product related industries.
- CAGR, scope of product related industry.

Based on the above estimates you can work with your interviewee to find out if numbers are supporting the cause for market entry. ***Most interviewees are looking for you to scale horizontally, touch every possible factor that might affect the case.***

| | MISCELLANEOUS | |

Case-15 | | Mastercard Advanced Analytics | | Miscellaneous

Problem: In your hometown, I want to open a Japanese restaurant. Elaborate on factors to consider while opening and time to breakeven.

--Suggested Approach--

- Who we are?
- ***3C 1P Framework (Company, Customer, Competitor, Product)***
- Ask relevant question

--Approach by interviewee--

Interviewee: Company- Multinational brand or single store shop?
Interviewer: Consider your own shop.

Interviewee: Customer segmentation?
Interviewer: Targeting premium customer

Interviewee: Competitor?
Interviewer: Competitors: Mainland China, other local players.

Interviewee: Product- a Japanese food offering

Potential Revenue = Avg price per customer* potential customer
Potential Customer > Guesstimate >
Avg price assume 500/- (Premium Segment)
Cost = Fixed cost + Variable cost (Ask necessary questions to get both answers)
Estimate Profit/Loss, consider other factors (Location about hometown) etc.

Case-16 | | Flipkart APM - Round 4 | | Technology

Problem: You are the Product Manager of Facebook, how would you detect fake news, how would you communicate with your tech team to address this problem and what features would you add to stop fake news?

--Suggested Approach--

Interviewer: How do you think fake news can be detected
Interviewee: Using sentiment analysis to detect fake news. Also, blockchain can be used to detect fake news and the source of that information.
Interviewer: How would you identify a piece of news as fake? Define a structure for it.
Interviewee: Here, the focus should be more on humans reporting a post as fake rather than using technology, because technology may not be able to understand the post that well.

Interviewee: Are we assuming that the source of fake news only via posts?
Interviewer: Yes, let us assume that for now.

Interviewee: Okay, so once users report a post as fake/spam, then all explicit interactions (like, comment, share) with that post should be stopped, till it is verified whether a post is fake or not. Once the interaction with posts is stopped, then we will put a different option on the post saying "raise a concern" where a user who has already interacted with the post can identify whether the post is fake is or data.
Add a reward system associated with "raise a concern." Suppose a user has identified a concern with several posts, has attached a source for valid information, and has been correct on a majority of times, then we can reward him to encourage people to report more on these such fake posts.

Interviewer: How would you define whether a post that is reported as fake by some users, is already viral or not?
Interviewee: Since Facebook has a wide active user base, so if the post is already viewed by a person's third connection, then we can classify that as a viral post.

| | GUESSTIMATES | |

Case-17 | | American Express | | Guesstimate

Problem: Estimate the number of boats in Varanasi.

--Approach by interviewee--

Assumptions:

- There are 88 ghats in Varanasi. Let's round off to 80.
- I divided ghats on the basis of population that visits them. 10%- Highly populous, 60%- moderately populated, 30% with very less population. I neglected this 30% of the ghats for my calculations.
- I assumed the dimensions of each ghat - 100m X 20m.
- I assumed that during peak hours all the boats are in use. During peak hours, at any particular time, density of people:
    - On highly populous ghats - 2 people/sq. m
    - On moderately populated ghats - 1 person/sq. m.
- I assumed that 20% of population at ghat at any point of time would like to boat.
- I assumed there are three types of boats and their capacity:
    - Large - 40 people
    - Medium - 20 people
    - Small - 10 people

  Then I assumed large boats will carry 20% of boating population, Medium boats- 60% of boating population, Small ones carry 20% of boating population.

Calculations:

- **For Highly populated ghats:**

  Number of ghats = 10% of 80= 8

- During peak hours, population of a ghat at any point of time = 100*20*2=4000
- Boating population = 20% of 4000= 800
- Population on large boats = 20% of 800= 160
- Population on medium sized boats = 60% of 800= 480
- Population on small sized boats = 20% of 800= 160
- Number of large boats = 160/40= 4
- Number of medium sized boats = 480/20= 24
- Number of small boats = 160/10= 16
- Therefore, number of boats on any ghat = 4+16+24= 44
- Therefore, total number of boats on highly populated ghats = 8*44= 352

- **For Moderately populated ghats:**

  Number of ghats = 60% of 80= 48

  - During peak hours, population of a ghat at any point of time = 100*20*1= 2000
  - Boating population = 20% of 2000= 400
  - Population on large boats = 20% of 400= 80
  - Population on medium sized boats = 60% of 400= 240
  - Population on small sized boats = 20% of 400= 80
  - Number of large boats = 80/40= 2
  - Number of medium sized boats = 240/20= 12
  - Number of small boats = 80/10= 8
  - Therefore, number of boats on any ghat = 2+12+8 = 22
  - Therefore, total number of boats on highly populated ghats = 22*48= 1056

- Hence, total number of boats in Varanasi = 352+1056= 1408.

Case-18 || EXL || Guesstimate

Problem: How much soap is used in a month in India?

--Approach by interviewee --

Interviewee: Bar soap or Liquid soap? *(Brownie point).*
Interviewer: Bar soap.
Interviewee: Are we concerned about any specific brand?
Interviewer: No.

Interviewee: Division of the population into rural and urban. Then divide them by the number of households. (Do you want me to include it in a tabular form?).

Then divide the number of washes per month by the number of washes a soap last. (*Brownie Point*).

Interviewer: Can you suggest an alternative approach which doesn't involve people?

Interviewee: We can use the data of average water used in a household, divided by the share used in bathing.

Interviewer: Any other?
Interviewee: Am I allowed to ask for any data?
Interviewer: Yes.

Interviewee: Can I approach a supermall/local shop?
Interviewer: Yes.

Interviewee: Great, then we can list the number of soaps purchased in a day and the soaps remaining on the shelves. This will give us the average usage of soaps in the households of the locality without involving them.
Interviewer: Great approach.

Case-19 | | Unacademy APM | | Guesstimate

Problem: What is the total number of WhatsApp messages being sent in Bengaluru in one day?

--Approach by interviewee --

Interviewee: So, I will narrow down the number of people based on the following parameters:

- Number of people who have phone
- Number of people who have smartphone
- People who have KaiOS (assumed 5%)
- Now the number of people who have WA installed in their phones
- Two segments - high-frequency users (assumed 150 messages daily), medium frequency users and low-frequency users

Feedback from Interviewer:
Candidate should have taken a smaller number of daily messages sent in assumption. The interviewer was looking for 70-80 messages for high-frequency users, while candidate assumed 150 messages.

PRACTICE CASES

The Business Club Originals

Case-1 | | Market Entry

Problem: Your client is a manufacturer and retailer of luxury goods and is planning to enter the Brazilian market. One of the major factors that have prevented them from entering Brazil so far has been the 50% import tariff (production cost). However, the government is planning to lower it down to 15% over the next few years lowering it 5% every year (50-45-40 and so on). Should they enter the market?

--Suggested Approach--

Structure:

- The business of the client - Luxury Fashion Retailer.
- Constraints - High Import Tariff.

Framework:

- Financial Aspect
    - ROI - Investment needed.
    - Opportunity Cost - Why Brazil? Market Size, CAGR, how much market share we could have?

- Non-Financial Aspect
    - PESTEL evaluation i.e. legal issues, social issues.
    - Strategy to enter - Growing from scratch (Greenfield) or to Brownfield investment.
    - Competition - Existing competitor, feeling void if available.
    - Customer - What they want? Effective and efficient way to reach them.

Case-2 | | Market Entry

Problem: Our client Alpha is a high-end apparel brand for men and women. They opened their first store in Singapore 7 years ago and have expanded to 10 outlets so far. To maintain exclusivity, Alpha has resorted to selling its products only through owned retail outlets and its websites. Their revenues will reach nearly $ 40 million. They are now planning to enter the Indian market. Should they enter?

--Suggested Approach--

Structure:

- Client - High-End Apparel Brand
- Distribution Channels - Exclusive retail outlets and online websites. (This can also be viewed as a constraint to maintain exclusivity.)
- More information:
    - Inception for 7 yrs. in Singapore
    - Expanded 10 retail outlets
    - 40 Mn revenue which is good.

Should they enter in India?

A market entry should be analysed in four aspects:

- Economic View
    - The initial investment, fixed and variable costs >> ROI
    - Revenue targets - Because you are given current revenue data, hence you are expected to have a future projection.
    - Expected price of the products, how many units to be sold, how many units can be sold.

- Market Analysis
    - Market size, expected growth - CAGR
    - Key trends in the clothing industry > domain-specific question > fashion is often governed by trends.

    - Which locations in India will have good responses? > A must question as India has a lot of diversity in terms of geography and population.
    - Who are our existing competitors?
    - How are/have competitors responded to changes in the market? > Use every aspect of PESTEL here and you will get the answers.

- Customers
    - Identifying the TA > premium products aren't for everyone.
    - Shopping patterns of customers > brand loyalty if any, the frequency of visits, spend per visit, annual spend on the category company will be offering.
    - Distribution > most effective way to reach them.

- Clients
    - Understand why they want to enter the market > growing economy hence promise, or want to make something generic for the Indian TA or the like.
    - Clients budgets for marketing, sales, operations etc.
    - Product mix they want to launch and life cycle of each product here **>** you won't want premium leather winter coat in March.

Case-3 | | Profitability

Problem: There's a CCD outlet located in Varanasi and they want to increase their profit.

--Suggested Approach--

What questions we should ask before to know about the problem and collect data?

Ways to solve a case study:

- ***Identity the business environment of the present problem.***
  In our case identity whether it's a chain or a normal restaurant.
- ***Timeline of the problem.***
- ***Is this problem unique to just one particular restaurant?***
- ***What are the available options present to target audience? What is attracting the competitors away from the restaurant?***
- ***Were there any new tactics been adopted by the client since the rise of the problem.***

Data Collected:

- CCD outlet in Varanasi
- Profit affected only in the outlet of BHU
- JHV outlet is acting normal
- Profits are going down for three weeks.
- Competitors are not affected.

Goal: Increase profit by 10%.

Solving the Case:

- We know first point, i.e., "how to solve the case".

- Now we will do the second part.

- ***Profit = Revenue - Operating Cost*** (Revenue was going down.)
- ***Revenue = Volume of Product * Value * Variety*** (Volume was going down.)
- Price and Product Mix were the same. So, either the supply or the demand was. (Demand was going down.)
- Demand was down, the reason being improper, bad behaviour of waiters.
- Waiters weren't properly trained.

Recommendations:

- Proper training of waiters.
- Common guidelines for waiter regarding how to serve and their job to do.
- Feedback from the customer.

Case-4 | | Profitability

Problem: Your client, CV Raman Canteen, the problem of declining profits. Analyse the situation and come up with recommendations to solve the problem.

--Suggested Approach--

Structure of the problem:
Profitability Case Problem > Service Based > Late night working hours > Profits declining for 6 months > Industry Wide

Aim: Increase the profits.

Questions to be asked:

- What is the product portfolio?
  Maggie, biscuits, tea, chips.

- Among them which is responsible for the decrease in profits?
  Maggie
- Has the sale of product decreased in all the canteens?
  Yes > Hence, it's an industry-wide problem.

Solution:

Industry-wide problem > Applying ***PESTEL*** > Maggie comes under the category of legal issue > Introduce a substitute for Maggie >
Check conditions for it:

- Should cost and taste similar to Maggie (like yippee) and observe its sale,
- Should be equally popular among the consumers

> Introduction of a market-researched new product > Sales of both (substitute and the new product) are speculated keeping in mind their long-term effects.

Conclusion:

- Due to the lost faith of customers for Maggie, it is advisable to replace it with the product that costs and tastes the same and is equally popular among the customers.
- A new market researched product could also be introduced along with its substitute and we can analyse its feedback.
- Initially, the sales of the substitute may be low but in the long term, it could regain its pace.
  Adding to it, the other new product could also be kept if it is profitable for the owner.

Case-5 | | General Analysis

Problem: Your client is a large passenger cruise company running around Atlantic Ocean. It is thinking about investing 250 million dollars in a new 1500-person passenger ship. The general manager recently declared that he hopes to deliver 10% return on all the major investments. Help the client to determine if this is a good investment.

--Suggested Approach--

The goal is expansion to generate better profits and analyse will this investment be a conducive one.

Consultant: What is the time period decided in which the return is expected?
Client: Time period of 5 years.

Consultant: So basically, we are looking for a return of around 55 million per year to ensure 275 million after 5 years.
Profit = Revenue – Cost
What about the operational cost?
Client: No clue whatsoever.

Consultant: So, let's estimate the total no. of passengers.
What about the no. of trips per year and the duration of the trip?
Client: 40 per year and a weekly journey

Consultant: So, let's do an estimation.
Four months of holidays, vacations etc. and eight working months.
We can assume 100% occupancy during the vacations period. What can we expect from the working months?
Client: About 60% occupancy.

Consultant: Weighted Mean = 2/3*0.6 + 1/3*1 = 0.73
Total passengers yearly = 0.73*1500*40 = 43,800 (approx.).
Client: Okay. Cool enough.

Consultant: Now let's estimate the pricing. What segment of passengers does the project target?
Client: Premium/high end.

Consultant: So, our target group consists of high earning and high spending travelers, who are looking for luxury and comfort on their vacations.

Given that cruise operates in the Atlantic Region, let's try to estimate the expected revenue.

To estimate the total spending per person on cruise, we would try to figure out and analyze how much a person would have spent had he opted for a non-cruise vacation.

An affluent person would spend mainly spend on:

- Food
- Travel
- Commute

Food: Let's say a one-time meal cost him 1000Rs, and he takes two rounds of meals in a single day of vacation. Additionally, he might spend some money on snacks, drinks etc. Let's keep that figure to 1000Rs.
Total Spending on food: 2000+1000 Rs.

Stay/Accommodation: A luxurious stay at 4/5 Star hotel would cost him around 20,000Rs per night.

Commute: Let's say he spends 1000Rs on daily commute.

Total Cost/Day (TC): 3000+20,000+1000= 24,000.

Now generally people travel in pairs and thus above calculated cost would get halved in some cases.
Let's say 50% of our TG travel in pair.

Weighted average: TC*0.5 + (TC/2) *0.5 = 3/4TC

Now One-week vacation plan is equivalent to one Cruise trip (Duration of Cruise~1 Week).

So Weekly Spending = Total Cost * 7
Approximate annual revenue: Total Passenger * Total Cost * 7
= 43,800 * 3/4 * 24000 * 7 = 73.5Mn $

Now we have expected revenue around 73.5 Mn dollars, company is aiming for profit of 55 Mn dollars on revenue of around 73.5 Mn dollars.

Profit/Revenue= 0.74 (which is quite high for any business).

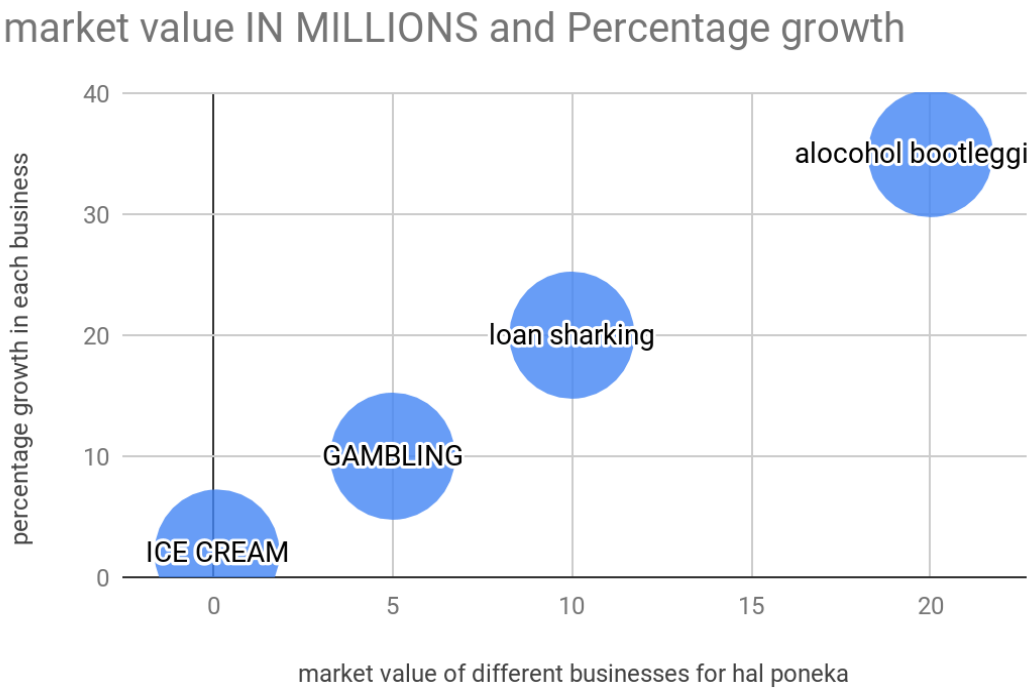
Hence, it's not a feasible investment.

CASE STUDIES

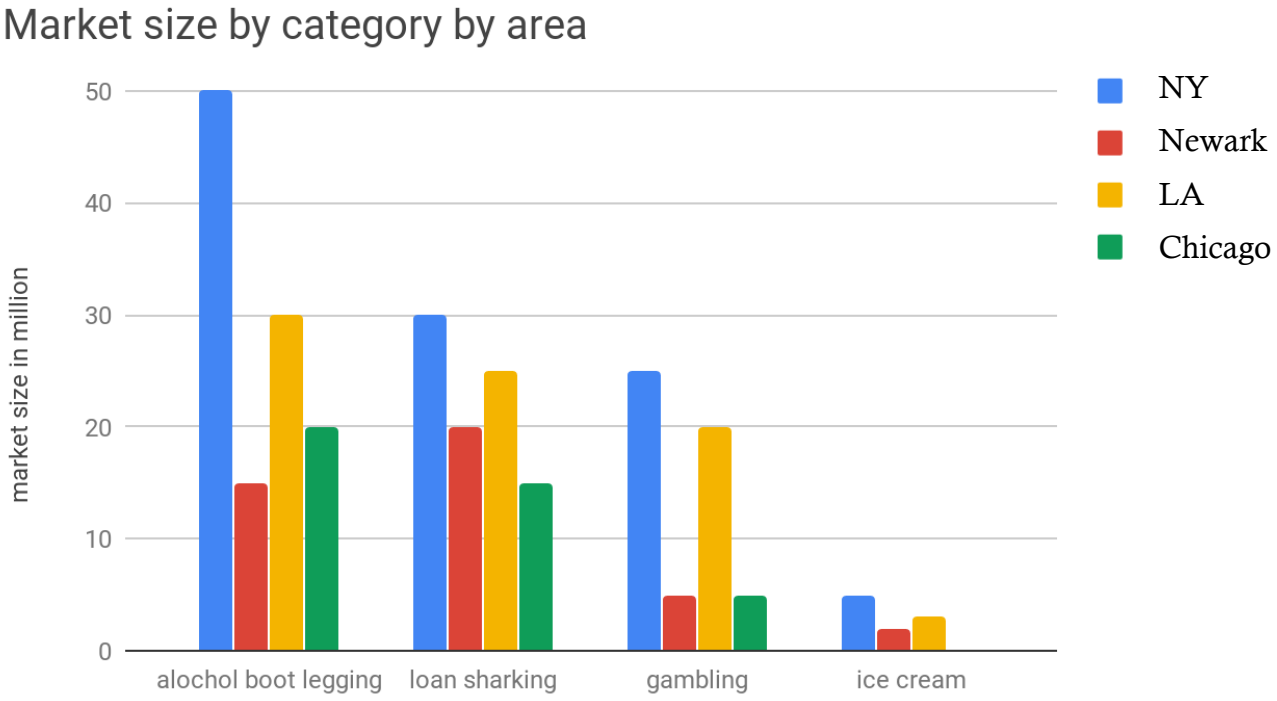
Growth Strategy

Problem: The year is 1930. Our client is Hal Poneke leader of an organised crime group in Chicago. He has a diverse business portfolio which includes alcohol bootlegging, loan sharking, gambling & ice cream parlours. His CAGR (compound annual growth rate) is 20% (cumulative of all businesses). He wants 50%+ growth until next year. How can we do it?

Data Available:



Market Size of Chicago = 10 Mn



Data for the comfort of expanding business in other cities:

Different Aspects	New York	Newark	LA
Willingness to do a joint venture	No	yes	no
Supply Relations	Yes	yes	no
Regulatory Relationships	Yes	no	no
Competition	Columbus, ruthless main player, minor player tony	Bucky, hates Columbus	No clear dominant player

Also,
Major player of Newark Bucky is offering a deal as following:
30% business of alcohol, gambling, loan sharking offered, and an upfront fee of 3 million dollars to be paid by Hal Poneke.

--Suggested Approach--

Given CAGR of 20% is really impressive for Chicago in 1930. There are broadly two approaches for achieving the 50% CAGR.

- Organic Reach
  Expanding the business in its present state, i.e. just trying to increase the revenue only by concentrating on our business only, i.e. without any deal or measures to undermine the competitor.
- Inorganic Reach
  Expanding the business by diversifying the portfolio and by M&A with any competitor as such.

In this case, we have to expand only in the given portfolio in mentioned.

Now the question arises that is the market share captured by our client in the given conditions has the potential to reach the desired goal or not?
If the business is already at saturation, then what are the ways to reach the desired goal?

For knowing the answers to the questions above we need the following information:

- The stats to the present market in all the four businesses.
- Comparative market sizes and competitors in other markets which are approachable.

Inferences from the graph of the market value of various businesses of Hal Poneke:

- Alcohol business have largest revenue (20M) and the largest CAGR (35%) followed by loan business (10M revenue and 20% CAGR) and gambling business (5 M revenue and 10 % CAGR)
- 10 Million is the market size of Chicago.

So, it is evident from the graph that the major contributors of revenue, i.e. gambling, alcohol bootlegging and loan sharking combinedly, have exceeded the market size.

Now we need to know about the places that are geographically near to Chicago and have a potential for the same kind of market.

Inferences from the market size of the neighbouring countries:

- New York has the biggest market in all the industries respectively followed by LA followed by Newark in loan sharking and gambling and by Chicago in alcohol bootlegging.
- The relative distance of cities from Chicago: NY>Newark>LA

It is really important to know the proximity of the cities where we are considering expanding. It is important to have the best combination of proximity, relations and market expansion scope in order to meet the goal.

So, after consideration of all the data for the comfort of expanding business in other cities, the best option in consideration we have is Newark.

Major player of Newark Bucky is also offering a deal:
30% business of alcohol, gambling, loan sharking offered, and an upfront fee of 3 million dollars to be paid by Hal Poneke.

Let's analyse the deal.
Is this deal sufficient to satisfy 50%+ CAGR?

ROI (in millions) = X*0.3 – 3 – OC

Where,
X is the market share of the joint venture of Bucky and Hal Poneke
OC is the operating cost
3 Million is the one-time investment

We are assuming that the joint venture of bucky and Hal Poneke would capture almost the complete market of Newark.

Now the excess of revenue generated for Hal Poneke can be calculated as follows:
Total revenue of Newark market * 0.3 = (15+5+20) * 0.3=12 million dollars

The current market revenue of Hal Poneke = 35 million.

Excess growth other than normal 20% CAGR= (12/35) *100 =34.2%.
So, the combined annual growth will be 34.2+20=54.2%.

Hence, the required 50%+CAGR is achieved.

Canva || Growth Strategy

Canva's growth team has created a process from which they improve their activation rate by 10% regularly, resulting in tens of thousands of new active users every month.

Here's how.

Canva is a graphic design platform that allows users to create social media graphics, presentations, posters and other visual content. It is available on web and mobile and integrates millions of images, fonts, templates and illustrations. Canva is Australia's fastest-growing tech company. They've attracted 8 million users in two short years and raised nearly $50M in VC by empowering anyone to create beautiful graphic design, and their office reflects both their mission and their success.

With hundreds of thousands of new users trying the product every month, Canva built a growth team focused on improving their product's activation rate—or the percentage of new users who successfully create a design.

The goal was to first figure out traffic that was coming out from the different online channel. Following the ***Pareto Principle***, product managers at Canva started looking for channels where traffic was high but the activation rate was low. For Canva, "activation" comes after a new user signs up for an account, and it's tracked as the percentage of new users who successfully published a design after signing up.

The team narrowed down on channels where traffic was high but activation was low. They tried to test why many users would leave after signing up without making a poster. A causal analysis of the home page of Canva showed that page didn't have any major snag, technical problem.

The next task for the team was to go in-depth of problem, narrow down the reasons and layout a hypothesis.

The team sent a mail to all the churned users asking some basic questions:

- What is the purpose of your visit to our website today?
- Were you able to complete your task today?
- If you were not able to complete your task today, why not?

It revealed that many of the many respondents simply didn't find what they were looking for when they tried to create a design in Canva after signing up. Team pocketed that insight.
Lastly, the team sent another survey to new users almost immediately after signup. This survey aimed to quantify users' ultimate goals. As Xingyi (Xingyi Ho, a growth manager at Canva) explained, "we wanted to know what type of poster new users are looking for."

Xingyi analyzed the survey data and looked for patterns. Patterns bring Xingyi from grasping the broad opportunity to having an accurate diagnosis as to where exactly the opportunity lives. The poster surveys helped Xingyi realize that the goals of new users were vastly different. Some users were coming to create something for their church, while others were doing it for a rock concert. The clipart, stock photos, and tools these users needed may not overlap, and users were churning because of this.

This insight provided team with an Initial Hypothesis:
Personalizing user's home based on his/her purpose of visit. For example, for a person who wants to design a poster for college can be directed to a page which has templates, design which is most frequently used by college students.

One quick way to figure out what kind of poster a new user wanted to create, without implementing a complicated tracking system that followed their Google search query, was to simply ask them. So Xingyi created an interstitial to appear in the Canva onboarding experience. Since he didn't want to tap into engineering resources to try it, he used Appcues to run a small test for a percentage of users pitted against a control.

Xingyi measured results from his activation experiment in Amplitude. After 2 to 3 weeks he reached statistically significant results and was able to quantify the improvement the experiment made. Xingyi's hypothesis about personalized onboarding proved to be correct.

Directing users towards specific types of posters and continuing to personalize the experience based on their choices resulted in a 10% increase in activation for the posters product. But before Xingyi rolled out the onboarding experience to all of Canva's users—remember, only 5% of new users saw the experiment—he ran a few additional tests to optimize the in-app message further.

Sources: https://www.appcues.com/blog/canva-growth-process, https://clearbit.com/

ANYTHING AND EVERYTHING ABOUT PRODUCT MANAGEMENT

A ROADMAP OF PM INTERVIEWS

While most of the profiles offered on campus have well-defined skill sets, product management is the only one where dynamic people are desirable. If you are into a lot of things (and perform above average in them) and don't want to give up on any one of them, this profile might be a good fit to prepare for.

Since PM is a booming field, the number of APM profiles offered on campus have seen a surge. It was just Flipkart APM in the 2018 cycle, while four other companies came during the 2019 placement cycle and it will only increase this year. Due to the novelty of this profile in the industry, the job descriptions of most of the companies are obscure. Therefore, those who are not willing to experiment with their careers presently would be better off preparing for more established profiles like data analytics or SDE.

The best way to prepare for PM interviews is to make thinking like a PM your second nature. Whenever you come across a product (digital or otherwise) ask yourself questions like What this product is meant to do? How does it work? Is this product solving the problem it is meant to solve? How are other products in this category solving this problem? Is this the best way and if not, what are the improvements you wish to see? When you practice this with regular things around you, you understand the difference between good and bad customer experience. Make it your habit. When you have practised enough, solving interview rounds like problem-solving and product thinking will become natural to you and it won't look like you mugged up some books two months before placement.

Preparation for PM roles is a time-consuming process. More importantly, it may occupy a fair share of your time during the placement season in solving and submitting problem statements. Also, ***APM roles and interviews are not a sure-shot ride to glory; they are the most unpredictable interviews one would sit for.*** In this regard, everyone does and should keep a good number of backups, apply for more roles than just PM and most importantly, get their motivation right to apply for these roles.

The first step of the APM process is Problem Statement Submission. Three things to remember:

- **Analyse the problem very well**
  From a Flipkart APM mentor - ***"Your solutions are worthless if you never understood the problem well."***

- **Define User-Persona and their pain points**
  PM profiles are all about understanding users, this needs most emphasis.

- **Give reasonable and logically backed solutions**
  Adding metrics to measure the effectiveness of your solutions gets you brownie points). ***Golden rule: Please don't go overboard with tech-heavy solutions and avoid AI, ML, VR, AR jargons.*** Stick strictly to your level of understanding of any technology. ***Simple and non-disruptive solutions are the key to getting shortlisted.***

Companies like Flipkart may also give you additional layers of problems. The book ***Preparing for Product Interviews*** by Adavith Sridhar describes useful approaches to make PPTs. Flipkart recommends it too. Also, for Flipkart, it's advisable not to make presentations on problems with e-commerce platforms (they know more, you won't be able to prove your merit). Prioritise something that you might have already worked on so that you are able to ***showcase exclusive and in-depth knowledge of the product.***

The second step is the interview. Key Points:

- **Know how a PM functions**
  It helps you develop an aptitude for it. A Flipkart APM suggests this Medium article for the same.

- **Practice a lot of case studies**.
  Read a couple of cases from Advaith's book as a primer. The best way to practice for cases is to do it with a competitor who is as serious as you to get that job. Lone study won't work here. There are some standard methods to solve case studies that can be found in Victor Cheng's

YouTube series. 3P2C model is also beneficial. Also, make your own frameworks and logical thought process to deconstruct problems into smaller chunks and practice this by solving cases with your case partner. Start with taking up cases from books like ***Case in Point*** (for problem-solving) then ***Cracking the PM Interview*** and ***Decode and Conquer***, but remember no amount of book reading can replace the importance of developing your thought process. The YouTube channel Exponent has great interviews of PMs from Facebook, Uber, Microsoft and Google.

- **Know tech, but not too much**.
  You may refer to the book ***Swipe to Unlock*** for a tech primer, know about ***Platforms*** and how they function that's all. Also do study ***System Design***.

Limit your sources as much as you can, practice case studies thoroughly and remember to keep your mind decongested so that you can think clearly. Go with a cool head, a filled stomach, a grateful heart and a humble smile. And always remember - 'Sab lite hai'.

- Rohan Bhardwaj, EXL
Anmol Agarwal, VMock
Priyanshi Porwal, Mastercard

BEING A BETTER PM

From a macroscopic perspective, the pursuit of being a better product manager requires a temperament for managerial-skills and a logical outlook while facing problems. A PM works with numerous teams and leads them in working towards a specific goal for the company, be it- troubleshooting problems in their app, boosting the sales of their new product, or maybe even releasing a new feature to enter a new market. Although it may vary company to company, there is no fixed job description of a PM; businesses usually require PMs to take responsibility for creating, executing, and launching ideas and features. Like a mini-CEO, a PM has authority over what to projects to do next, however, unlike a CEO, a PM does not have direct authority over the team he/she might be working with. Therefore, it is the sole responsibility of the PM to get the project delivered within the time contract without any actual command over people and this, in turn, requires quite a few skills that a PM aspiring candidate must possess.

Some tips which are helpful at an undergraduate level:

- The single most important skill, and which is the true essential for any 'Product Manager' to survive and succeed in any industry is - **Problem Solving**, i.e., ***the ability to provide logical and well-reasoned arguments taking into account their real-life feasibility***.

- A **general rule of thumb**, while approaching any problem - ***Always question yourself with 'Why', before, 'What' and 'How'***. Once you know the 'Why' to a problem; you are more likely to take up a much effective approach in your thinking. And after which you can work on the 'Whats' and 'Hows'. Try digging out the core reason behind what's causing the problem rather than just treating the 'symptoms' of the problem, and never jump to conclusions without solid-logical reasoning behind it.

- **Be creative with your solutions**. Employ all resources at hand to arrive at a solution - A solution that is effective in its result and efficient in its execution. It is important to have an aptitude for technology, design, and

business (in general). Practising solved cases, staying updated, and learning on from new technology, brainstorming on problem statements inspired by real-time businesses are a few activities that can help improve your aptitude in the above-mentioned subjects.

- **Be master in at least one skill.** A Product Manager has to deal with numerous teams, and other than having eminent people skills, possessing solid hard-skills will help you better fabricate a new approach towards a solution and build better communication with people on other teams. C++, Python, Java as programming languages, to name a few, from a 'Coder's' point of view. Proficiency in wireframing and UI prototyping from a 'Designer's' point of view, whereas Google Analytics, Google AdWords, and Facebook AdWords will provide a broader perspective in building a creative marketing framework. SQL coupled with basic experience with coding in any language is sort of a must for all undergraduates who wish to pursue a career in Product Management.

- Prankit Jain
ZestMoney APM

PRODUCT MANAGEMENT
A WORD OF CAUTION

There's been an increase in PM hiring straight out of the campus. And due to reasons, such as the high compensation, lure of a new(ish) profile or genuine interest, many students who've just completed their first or second year determine that they want to become product managers. It's too early to decide at that point. It's a time when you should be exploring all that is available to you (including your core field) rather than getting tunnel-visioned for a particular profile that you see is popular.

Agreed that they might like critically looking at products and figuring out how the technology works, but they shouldn't limit themselves to only that just because it was the first domain that they explored, liked it, and never looked anywhere else again. Don't become a sheep. A college is a place where you can explore yourself — you have the means and resources. Don't anchor yourself so early. Once you start exploring, you'll have a better idea of what you really want.

- Yatharth Dahiya
Bajaj

BEFORE YOU ENTER THAT ROOM

À LA CARTE OF PERSONALITY INTERVIEW QUESTIONS

- Tell me about yourself and your family background.
- Give me five adjectives to describe yourself.
- Why do you want to work with us?
- If you're so good as you say you are, why aren't you placed as of yet? It's Day 3 already.
- What kind of project would you be interested in starting with, as a PM?
- What went on through your mind or what was your state of mind when you were working in xyz as an intern?
- If you could get back in time, what would you change?
- Tell me about a time, you found a loophole in any system and used it to your advantage.
- Talk about a time when you had to work closely with someone whose personality was very different from yours.
- The most important lesson you've learned in your journey so far.
- Tell me about the time you lived in *(hometown, Varanasi)*.
- Give me an example of a time you faced a conflict while working on a team. How did you handle that?
- Describe a time when you struggled to build a relationship with someone important. How did you eventually overcome that?
- What makes you truly happy?
- Details about your PORs?
- Tell me about a time you were under a lot of pressure. What was going on, and how did you get through it?
- Describe a long-term project that you managed. How did you keep everything moving along on time?
- We all make mistakes we wish we could take back. Tell me about a time you wish you'd handled a situation differently with a colleague.
- Tell me about a time you needed to get information from someone who wasn't very responsive. What did you do?

- Sometimes it's just not possible to get everything on your to-do list done. Tell me about a time your responsibilities got a little overwhelming. What did you do?
- Tell me about a time you set a goal for yourself. How did you go about ensuring that you would meet your objective?
- Give me an example of a time you managed numerous responsibilities. How did you handle that?

Let's elaborate more on how to handle these questions:

Three important questions are repeatedly asked - Tell me about yourself, why XYZ company, why should we hire you? These define the direction in which your interview moves, and here you get an open chance to impress the Interviewer. So do not keep it philosophical, tell concise (specific) experiences and concise achievements.

Sample Case

Interviewer: Tell me about yourself?
Note: This is the most crucial part of the interview. This is the time when you are given free reins to steer the interview in the direction you want it to go. You can try to knit your college experiences into a story. Talk about specific instances where your life experiences slowly steered you towards becoming the person who you are today.

Interviewer: Why XYZ Company?
Note: The key here is to show your interest in the specific industry that the company operates in. You can talk about the significance of the company's work in the contemporary world. You can also talk about the growth opportunities in the industry or the company. In case of a strongly competitive market, it is advisable to have an idea of the major competitors of the company and the major differences between them. Try to answer how the position you're interviewing for would help you in the future. Use the ***STAR (Situation, Task, Action, Result) Framework*** while describing any relevant job/work experience.

- Ayush Goyal
Mastercard

POINTS TO KEEP IN MIND

- Keep clearing tests as the priority. The more shortlists you have in the first two days, the more confident you'll feel during the interviews.

- Avoid using complicated frameworks unless absolutely needed. Go by the basic approach.

- Be thorough with each and every point in your resume—especially internship and project experiences. Cases can be given from topics related to them.

- Do at least 30 minutes research on the companies you're going to interview the next day. Have basic knowledge about the work being done there, their recent innovations and major goals.

- Keep an open mind while going into the interview room. Do not expect that questions will be asked from areas you have prepared. Sometimes, interviewers ask out of the box cases or behavioural questions to check how you react to the situation. So, be mentally ready to accept any kind of questions.

-Ayush Chakraborty
AB InBev

THE PLACEMENT ESSENTIALS

STATS FOR BUSINESS

Introduction to Descriptive Statistics

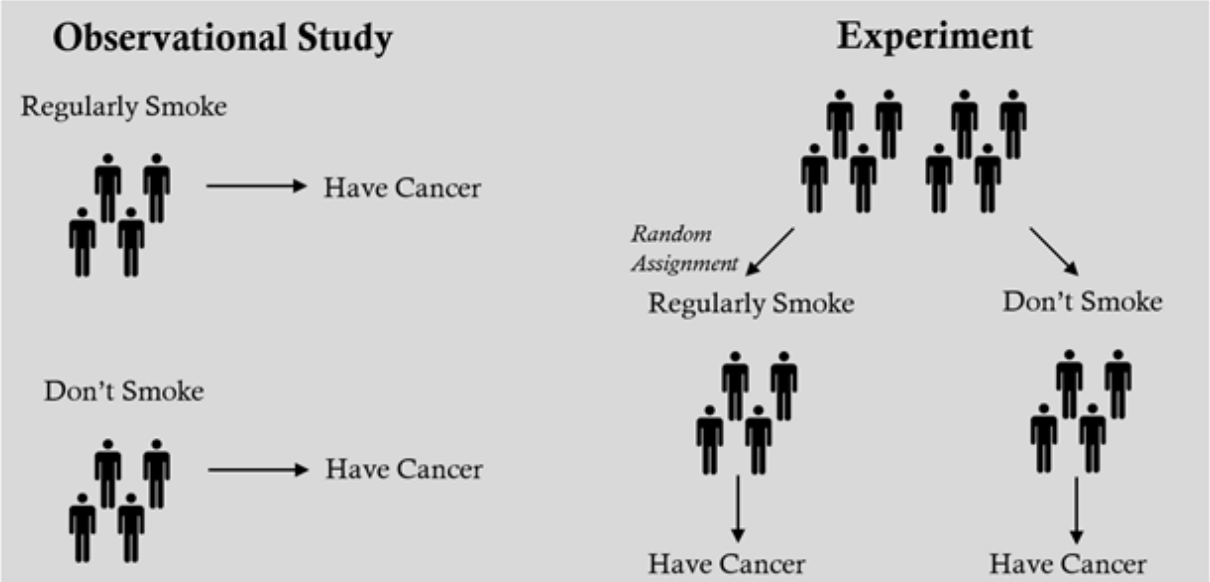
In this series of articles, we aim at covering statistics from scratch to its implications in the real business world. We'll start by defining what essentially a **variable** in a given data means. Variables are used to represent data points and can be broadly categorised into numerical and categorical.

Numerical variables are either a set of discrete or continuous numbers. Continuous numerical variables can take in an infinite number of values, whereas discrete can only take in a set of finite values.
Categorical variables are of two types - ordinal and nominal. As the name suggests, ordinal categorical variables have some order or pattern in them. For example, our education levels follow a pattern - pre-school, high school, undergraduate, post-graduation, PhD. On the other hand, nominal categorical variables lack any order or levels.

Now how does one analyse the given data? Studying and analysing data in statistics follows two methods - **observational** and **experimental**. In an observational study, the collected data does not infer with how the data arises. We merely observe the data and do not infer or conclude anything from it. We establish an association, i.e., a correlation. If the observational study uses data collected in the past it's called a retrospective study and if it collects data along the study process it's called a prospective study. In experiments, we randomly choose some variables out of the entire population and after that establish connections.

Let's make this a bit more clear. Suppose we aim at establishing a relationship between regularly smoking cigarettes and having cancer.
In an observational study, we would categorise the population into two parts - one who regularly smoke and one who doesn't. Then we study the two categories for people who have cancer and compare.

Whereas in an experiment, we sample a group of people and then randomly categorise them into two - those who would regularly smoke and those who would not throughout our study. You can see that we impose upon our subjects the decision to smoke or not to smoke. At the end of the study, we compare both the categories for people having cancer.



We saw that in an observational study, even if we found a pattern in people who have cancer, we can't imply or attribute this solely to regularly smoking cigarettes. There may have been other variables, like medical history, lifestyle, etc. that we did not control and affected the outcome.
However, in an experiment, such variables are likely equally represented in both groups due to random assignment. Therefore, if we observe a pattern in regularly smoking cigarettes and having cancer, we can make a causal statement.

Variables that affect both the explanatory and response variable, like medical history in our case, and make it seem that there is a relationship between the two are called **confounding variables**. The important thing to note is that "***Correlation does not imply causation***". The correlation or the causation is dependent on the kind of study we are basing our conclusions on.

In the above paragraph, we spoke about sampling the population. But how do we decide who to choose and who to not?

There exist three types of sampling schemes, namely, simple random, stratified and cluster sampling. In **simple random sampling**, each individual is chosen randomly. Each individual stands an equal chance, i.e., an equal probability of being chosen. In **stratified sampling**, the population is categorised into subpopulations. The individuals are divided into homogeneous subgroups before sampling. The subjects vary across the different strata but are similar in each stratum. The strata are hence mutually exclusive and collectively exhaustive. After that, simple random sampling is applied within each stratum. Lastly, in **cluster sampling**, the population is divided into groups. These groups are internally heterogeneous but similar to each other, i.e., mutually homogeneous. Now simple random sampling is applied within individual groups.

Descriptive Statistics Explained

Now, let's get some intuition of Descriptive Statistics. In layman terms, descriptive stats let you understand some specific insights of data by giving summaries of the sample or measures of data. According to the book 'Naked Statistics,' descriptive stats can be like online dating profiles, technically correct and yet can be pretty darn misleading! (We'll see that :P)

Descriptive statistics are broken down into two categories:

- **Measure of Central Tendency**- Generally refers to the idea that there is one number that best summarises an entire set of measurement. (Mean, Median, Mode)
- **Measure of Dispersion**- Tells how dispersed data is (Standard Deviation, Variance)

Now, let's cover each measure one by one, and we'll go through some real-life examples as well.

Mean

Mean, or average, is the measure of the "middle" of a distribution. Let's take the case of the placement scenario. Suppose your batch has ten students. 9 students get placed at 10 LPA(CTC), and the extraordinary one gets a package of 1.5 Cr (CTC). The mean of the batch turns out to be 24 LPA. Sounds pretty good, huh? A new entrant might think that college has a pretty good placement scene. But you know the reality and would comment that this mean number is deceptive. (1.5 Cr will act as an outlier to your data, or in simple words, it stands out.)

That's the thing with mean: *it's sensitive to outliers*. And the outliers may alter the mean in a significant way.

Median

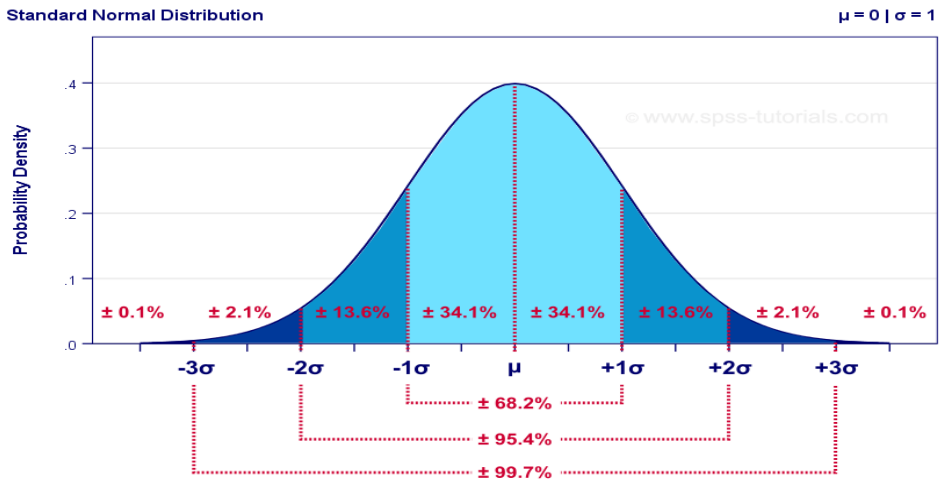
Median signals "middle" of the distribution. In simple words, the median divides the distribution into two halves, i.e., half of the observations lie above the mean and half below it. In the above placement case, the median package turns out to be 10 LPA. Median gives a better intuition of the placement of your

batch to the new entrant, and he may seek a better college with a higher median package.
Suppose the company offering 1.5 Cr thinks that you are also capable and offers you the same package. In this case, the mean package will rise heavily, but the median will remain the same.
Note: In the case of symmetrical distribution or distribution without serious outliers, the mean and median will have approximately similar values.
So, the key here is to determine which measure will be more accurate in a particular situation.

Mode
The value or category that occurs most frequently in the data. However, it is not a very relevant descriptive stat when the data is continuous.
On the other hand, it is the only measure of central tendency that could be used for categorical data. E.g., Gender, you can simply say, whether the mode is female/male/other.

Variance
It is the average of the squared difference from the mean. However, because of this squaring, the variance is no longer in the same unit of measurement as the original data. Taking the root of the variance means the standard deviation is restored to the original unit of measure and, therefore, much easy to measure.

Standard Deviation
It is a measure of how much the data is dispersed about its mean. It reflects how tightly the observations cluster around the mean. It is the square root of the variance.
Standard deviation and variance play an essential role in risk analysis of stocks. The more the SD of a particular stock, the more is the risk, i.e., the more the stock price fluctuates, the more the risk.
One important thing to note is that for a **normal distribution** (data that is symmetrically distributed around the mean in a bell shape), 68.2% data lie within one SD of the mean, 95.4% around 2 SD of the mean and so on. Please note that this lays the foundation on which most of the statistics are built.



Source: *https://www.spss-tutorials.com/normal-distribution/*

Descriptive statistics are often used to compare two figures:

- If you compare two batsmen(cricket), you may look at their mean.

- In order to compare two colleges, one of the metrics can be the median package that students get.

- Suppose, we consider two cases: (A) a boys' hostel having 100 students and (B) a colony having 100 residents. Now, assume that the average age in both cases is 20 years. The hostel will have students of approximately the same age group, whereas the colony may have infants, youngsters, and older people. Here, you may get the intuition that age data of residents of the settlement is more spread out as compared to that of the hostel. Or, you may say that the SD of age in case B is higher than the SD of age in case A.

Probability Distribution

Before we launch into these heavy terms, let me tell you what a Random Variable is, and then- Why are we here.

As Investopedia says- 'A random variable is a variable whose value is unknown or a function that assigns values to each of an experiment's outcomes. Random variables are often designated by letters and can be classified as discrete, which are variables that have specific values, or continuous, which are variables that can have any values within a continuous range.'

In highlights, remember two things:

- A random variable is nothing but an outcome of any event, which was not biased / was unknown.
- They can be of two types- Discrete & Continuous. Example- getting a 6 on rolling a dice.

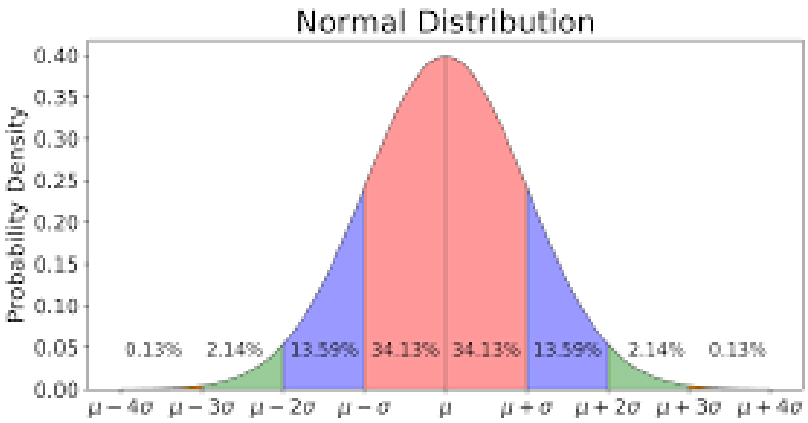
Now, let us talk about how it is related to Probability Distributions.

Probability Distribution

Probability Distribution is a statistical function which is a collection of all the possible random variables of any random Event (E), with its corresponding probability of occurrence (P(E)).

For example, if we take the classic case of tossing a fair coin- the random variable is X and the probability distribution of X= 0.5 for X = heads, and 0.5 for X = tails.

Gaussian (Normal) Distribution is one of the most widely worshipped distribution owing to the fact that most of the natural processes (Ex- height of all the 18 y/o in India) follow a Normal Distribution. Which means that when graphed, they depict a bell curve, symmetric about the mean. Their mean, median and mode are also equal.



Source: https://towardsdatascience.com/understanding-the-68-95-99-7-rule-for-a-normal-distribution-b7b7cbf760c2

This is in accordance with the Central Limit Theorem, which states that - the distribution of sample means approximates a normal distribution, as the sample size becomes larger, assuming that all samples are identical in size, and regardless of the population distribution shape.

Probability Mass Function (PMF)

PMF is a function that gives the probability that a discrete random variable (a random variable that can take only a finite set of values) is exactly equal to some value.

$$f(x) = P(X = x)$$

Here, f is PMF returning the Probability(P) that any random variable(X) has a value x.

For example - We roll a fair die, then the PMF of X will be

X	x=1	x=2	x=3	x=4	x=5	x=6
P(X=x)	1/6	1/6	1/6	1/6	1/6	1/6

Probability Density Function (PDF)

Imagine a scenario where the random variables are continuous, it is not possible to count and sum them to plot a probability distribution. That is why, these

random variables are integrated to derive their probability distribution called PDF.

$$P(X \in A) = \int_A p(x)\, dx$$

Ex- PDFs are used to analyse the risk of a particular security, like an individual stock. If you plot them, a bell-shaped curve will be formed with the mean/peak depicting neutral market risk, and either sides being risk/reward.

Cumulative Density Function (CDF)

CDF is a statistical function that gives us the probability that a random variable is less than a certain value. All random variables, discrete and continuous have a cumulative distribution function (CDF).

- In case of discrete random variable,

$$F(x^*) = \sum_{x \leq x^*} f(x) = P(-\infty < x \leq x^*)$$

  Where, f(x) is the PMF of x.

- In case of a continuous random variable,

$$F(x^*) = \int_{-\infty}^{x^*} f(x)dx = P(-\infty < x \leq x^*)$$

  Where, f(x) is the PDF of x.

When it comes to Data Analysis, Probability Distribution of the dataset, Probability Mass Function, Cumulative Density Function, and Probability Density Function come in the most handy for intuitive understanding of the dataset.

Hypothesis Testing

You are a manager of a food delivery company, Foodzen. Everything was going well. But then COVID happened. Sigh.

Closed restaurants and the desire to capture the rising demand of grocery delivery compelled you to try your luck in the grocery segment. You decided to start with Gurugram. After going through the reports, you figured out the mean number of grocery orders booked in a week is 40k. However, intuitively you thought it to be higher than this value. So, you went for an online survey in the city to test your hypothesis.

So, what is this **hypothesis testing?**

Hypothesis testing is a way to check whether the apparent behaviour is statistically significant or not. An effect is statistically significant if it's occurrence isn't merely a chance. Here we have to check whether we have the number of average orders as 40k or it's greater than that.

Stating the hypothesis
This brings us to the Null and Alternative hypothesis.

Null hypothesis states that there is no significant difference between the original value and the one that comes from intuition.
Alternative hypothesis states that null hypothesis is not true and behaviour shows some divergence from the actual behavior.

Null hypothesis	Ho: P = 40,000
Alternative hypothesis	Ha: P ≠ 40,000

Analysis Formulation
The variable P you have just seen is nothing but the mean of the data.

P-value

The probability of getting the sample statistics (mean, standard deviation, etc.) given the null hypothesis is true and is known as **p-value**. You calculate it based on the values from the samples (smaller subsets of the area/population).

Here we'll take 100 sub-regions of Gurugram based on the area and calculate the mean value of the number of orders. Suppose that comes out to be 45k.

Result Interpretation

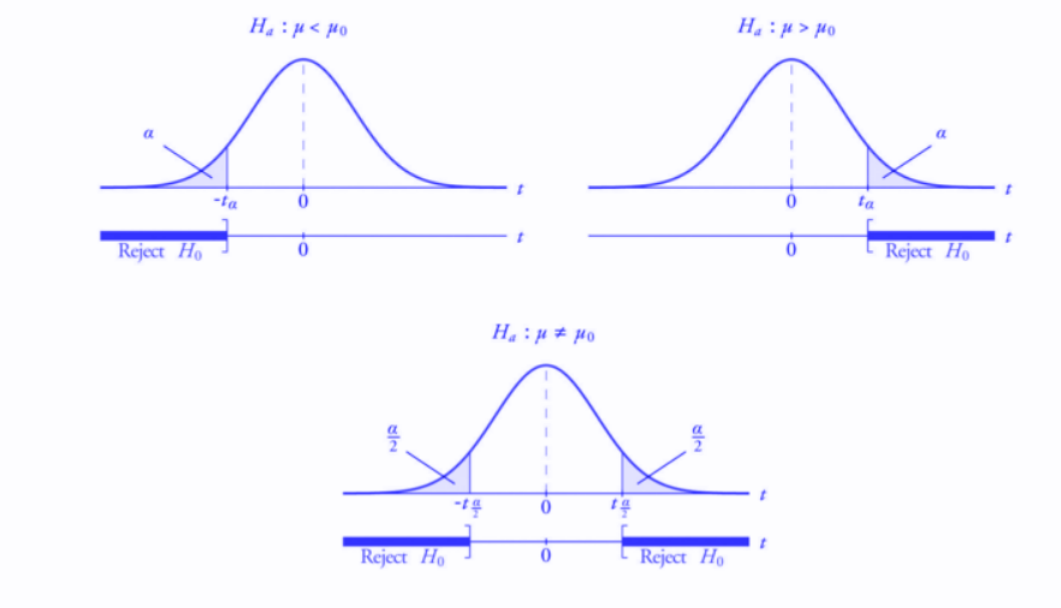
Our next step would be to calculate the p-value which is the probability of getting the statistic mean at least 5k away from the actual value, when the null hypothesis is assumed to be true.

If the p-value comes out to be less than the significance level dented by alpha(α), we reject the null hypothesis. Otherwise we can't reject the null hypothesis. Alpha is generally taken as 0.05.

P-value is the difference between the calculated statistic (mean in this case) divided by the standard error. So, the p-value in this case comes out to be higher than our significance level, $\alpha = 0.05$, so we can't reject our null hypothesis.

Alternative Approach

Using critical values



A **critical value** is the point on the scale of the test statistic beyond which we reject the null hypothesis. It is derived from the **level of significance** (**α**) of the test.

The critical value for a two-tailed test is generally taken as **1.96,** which is based on the fact that **95%** of the area of a normal distribution is within 1.96 standard deviations of the mean.

We compare the **critical values** (based on α) and **test statistics** (like **z-test, t-test, chi-square test, etc**.) to verify the hypothesis.

Z-test

Sample is assumed to be normally distributed and calculated on basis of parameters like mean and standard deviation. Null hypothesis is that the mean of the sample is the same as the original dataset.

$z = (x — \mu) / (\sigma / \sqrt{n})$

x= sample mean

μ = population mean

σ / √n = population standard deviation

T-test

It also assumes the distribution to be normal and is used to compare the mean of two samples.

$t = (x1 — x2) / (\sigma / \sqrt{n1} + \sigma / \sqrt{n2})$

x1 = mean of sample 1
x2 = mean of sample 2
n1 = size of sample 1
n2 = size of sample 2

Chi-square test

It is used in the case of categorical variables. Null hypothesis is that the two variables are independent.

$X2 = \Sigma [(Or,c — Er,c)2 / Er,c]$

Or,c = observed frequency count at level *r* of Variable A & level *c* of Variable B
Er,c = expected frequency count at level *r* of Variable A & level *c* of Variable B

If the value of the test statistic is lower than the critical value, we accept the null hypothesis or else reject the hypothesis.

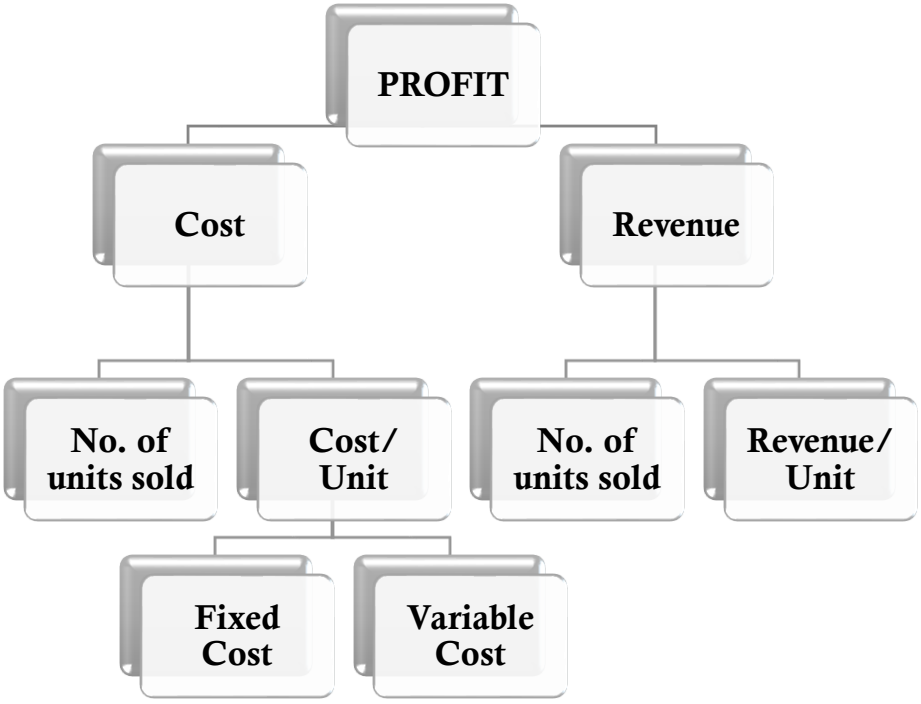
Check out this cool video for the calculation of critical value and testing the hypothesis graphically using the rejection curve.

FRAMEWORKS

SWOT Analysis

SWOT Analysis is explicitly used for quickly evaluating a single company in an industry. All the four parameters are analysed for a company within an industry. An important thing to note is that ***weaknesses are specific to the company, whereas threats are usually an industry-wide problem***.

Profitability Framework



Profit = Revenue - Cost

For the revenue, segment it into two parts, as shown above. Use the historical data provided for comparisons and observations. Keeping the 80-20 rule in mind, isolate the key driver causing the bulk of problem and then work upon the possible resolutions.

For data segmentation, isolate and explore:

- By product/ product line
- By distribution channel
- By region
- By customer type (new/old, big/small)
- By industry vertical

Once you know 'What' is causing the problem, work towards finding 'Why' the data showed such a behaviour.

For the cost, find whether the root cause lies in fixed or variable cost - Compare with the historical data. Identify the areas where the cost has remained constant and then analyse the areas where variations have been observed. Isolate what's causing the majority of the problem and hence finding the leverage point.

3C Framework

CUSTOMER

- **Customer Mix** - segment them on the basis of different parameters such as needs, demographics, etc.
- **Position** with customer segments (shares, growth rate, etc.)
- **Key drivers for decisions** - price, brand, customer power, etc.

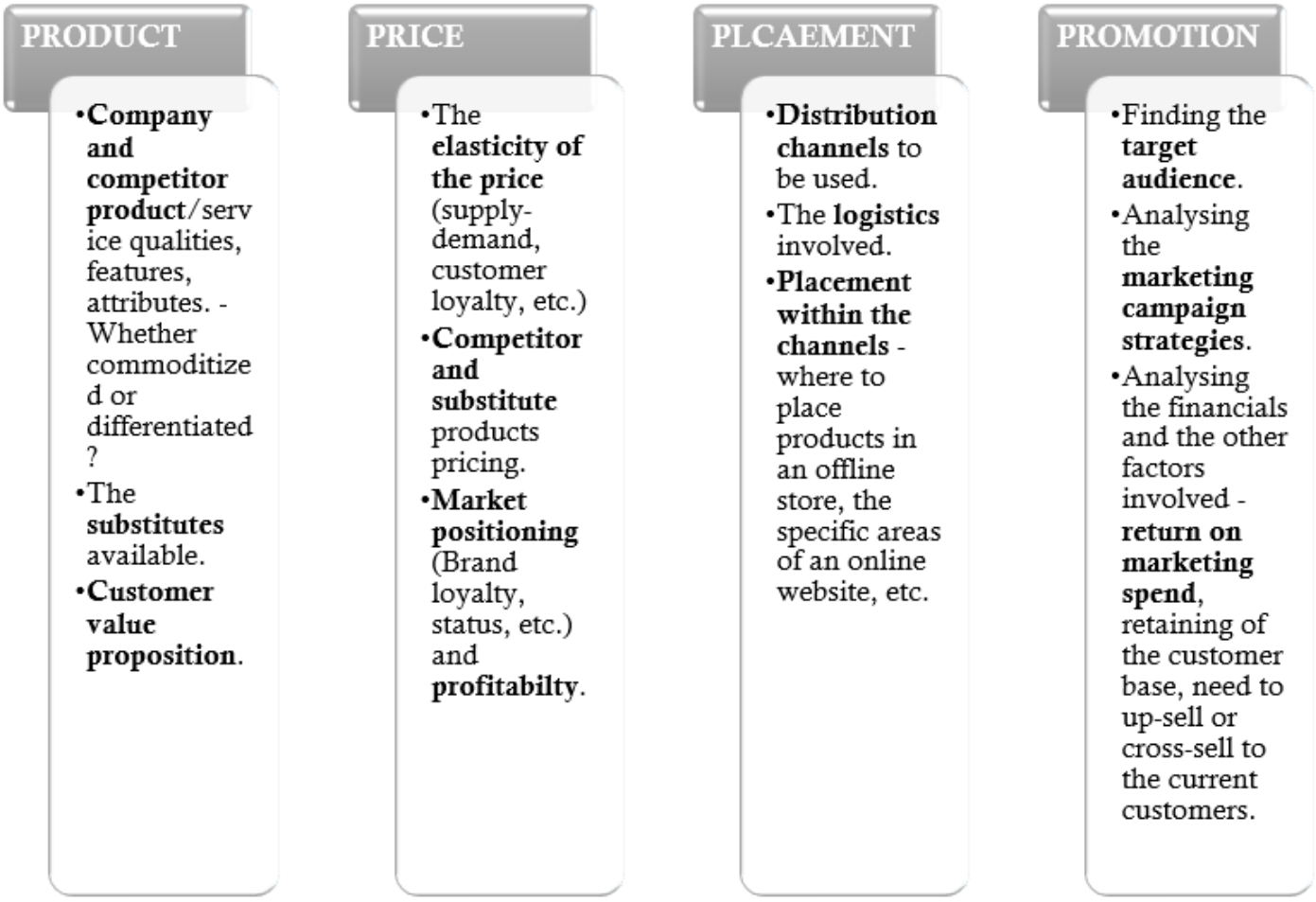
COMPANY

- Its **service offering** - the product.
- **Financial situation analysis** - costs, revenues, its profitabilty.
- Other factors such as **distribution channels, brand value**, core competencies, management, etc.

COMPETITION

- **Competitor make-up** - competitor concentration, market share, financial situations, distribution channels, etc.
- **Competitor product and services** - value proposition and value chain.
- **Barreirs to entry** - new players entering, regulatory environment, etc.

4P Framework



3C 1P Framework

Out of the above-mentioned 3C's and 4P's, a new framework 3C 1P is formed. It stands for ***customer, company, competition and product***.

It is followed when analysing business situations.
It's used mainly in case of –

- Markey Entry Cases
- Product Launch
- Company Review
- Product Iteration/ Improvement

Product Analysis

Different parameters are used to analyse a product design or future.

The book Decode and Conquer beautifully summarises them in three points:

- ***Is it innovative?***
- ***Is it useful?***
- ***Is it honest?***

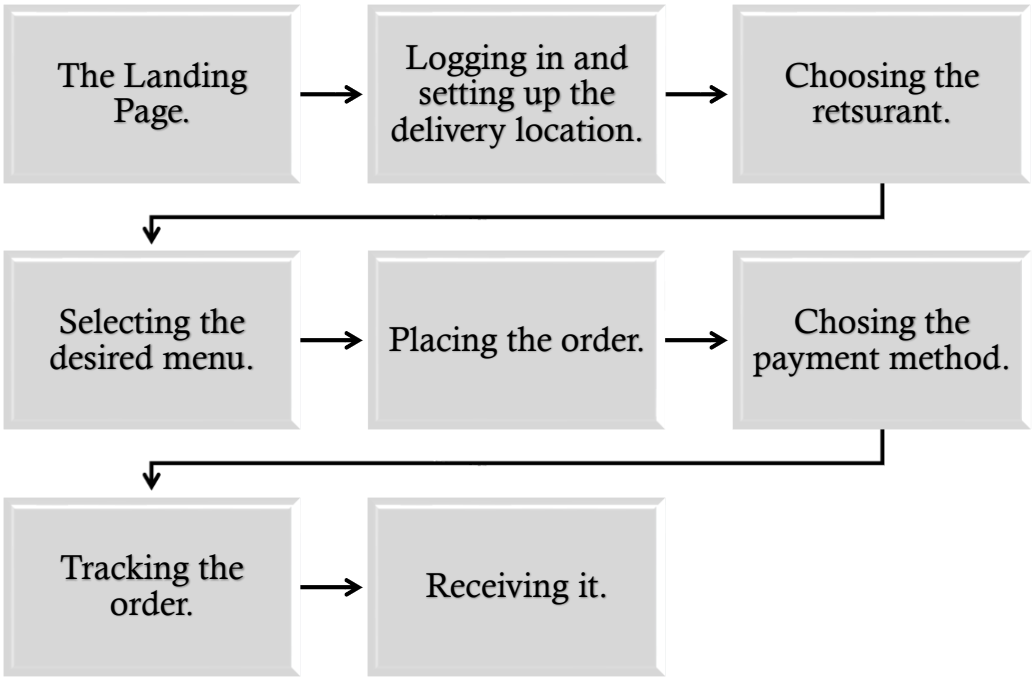
The above three design principles can be used for evaluating any product feature.

User Journey

When in doubt, go for the user journey.

A user journey is a path a user undertakes to reach their goal when using a particular website or app. They play a significant role in designing websites and applications. It aims at identifying the different way that will enable the user to reach the final destination as efficiently and quickly as possible.

To provide a more precise understanding, drawn below is the user journey of when you operate the Swiggy app.



GLOSSARY

A/B test	A/B testing (also known as split testing or bucket testing) is a method of comparing two versions of a webpage or app against each other to determine which one performs better.
Bounce Rate	The percentage of visitors to a website that leave immediately without clicking or interacting with any portion of the page.
Bread Crumbs	Links at the top of a web page or in a search result, that better help the user navigate the site.
CAC	*Customer acquisition cost* is the best approximation of the total *cost* of acquiring a new customer.
CAGR	The mean annual growth rate of an investment over a specified period of time longer than one year.
Cash Flow	*Cash flow* is the net amount of *cash* and *cash*-equivalents being transferred into and out of a business. At the most fundamental level, a company's ability to create value for shareholders is determined by its ability to generate positive *cash flows*
Causal Inference	Causal inference is a process that tests whether there is a relationship between cause and effect in a given situation.

Conversion	The completion of a predefined goal. This is often used to track the number of site visitors that have been "converted" into paying customers
Conversion Rate	The rate at which visitors to a website complete the predefined goal. It is calculated by dividing the number of goal achievements by the total number of visitors. For example, if 100 people visit a website and 10 of them complete the conversion then the conversion rate is 10%.
CPC	Cost Per Click: The amount of money spent for a click on an ad in a Pay-Per-Click campaign.
CTA	A *call-to-action button* is a piece of text, sometimes combined with an image, that tells your audience what you want them to do next.
CTR	Click Through Rate: the ratio of how many times an advertisement/link was clicked on, versus how many times it was shown.
DAU	Daily active users (DAU) is the total number of users that engage in some way with a web or mobile product on a given day.
EBITDA	*EBITDA* is essentially net income (or earnings) with interest, taxes, depreciation, and amortization added back.

Hedge	Hedging is a risk management strategy employed to offset losses in investments by taking an opposite position in a related asset.
MAU	*Monthly active users* (*MAU*) is the number of unique users who have performed some action in an app within the last month (30 days).
Metadata	HTML snippets added to a webpage's code that add contextual information for web crawlers and search engines.
PESTEL	A PESTEL analysis is an acronym for a tool used to identify the macro (external) forces facing an organisation. The letters stand for Political, Economic, Social, Technological, Environmental and Legal.
ROI	It calculates the benefit or loss that investment has produced relative to the amount of money invested.
SEO	SEO stands for Search Engine Optimization, which is the practice of increasing the quantity and quality of traffic to your website through organic search engine results.
SSO	Single Sign on feature (e.g. login through Facebook, Google)
UX	It stands for User Experience. UX refers to how a user interacts with a website or app (where they click, which pages they visit).

RELEVANT READS

Limit your sources, find out what works best for you and practice and practice thoroughly.

Books

Product Management

- Cracking the PM Interview: How to Land a Product Manager Job in Technology
- Decode and Conquer: Answers to Product Management Interviews
- Swipe to Unlock: A Primer on Technology and Business Strategy

Case Studies

- Case in Point: Complete Case Interview Preparation
- Case Interviews Cracked
- FMS Guesstimate

YouTube

Videos

- Exponent: It has interviews of PMs from Facebook, Uber, Microsoft and Google.
- Gaurav Sen: It contains videos on System Design and teaches on how to design one for various applications such as WhatsApp, Instagram, Tinder, etc.

Podcasts

- Intercom on Product Management: This series teaches on how to evaluate your current product, how to decide which features to build in

a haystack of those you shouldn't, best practices for getting those features used, and much more.

- The Accidental Product Manager: The podcast aims at explaining the science of product management and how managing a product is not just a business; it's a science.
- The Product Podcast: This podcast features PMs from Google, Facebook, LinkedIn, Spotify, Twitter and other tech companies/ startups.
- This is Product Management: This podcast interviews brilliant minds across the numerous disciplines that fuel the modern product manager. Episodes span from arts to science, tactics to strategies, confessions to professions.
- Use Case: It explores the start-up world in India and learning from some of the most accomplished entrepreneurs, investors, and CXOs in India.

TESTIMONIALS

Approach matters more than answer, explain your approach while solving, keep the conversation flowing, state your assumptions clearly. Solve all 80-90 puzzle on GFG, almost every puzzle would be asked from this given set only. I used FMS compendium for guestimate and TIME material for quantitative ability. Don't memorize generic HR answers from the internet, prepare your version of the story.

- Priyanshu Singh
American Express

You can never fake in an interview. Be comfortable and confident and express normally. You should be well-versed with your CV. Don't be mechanical when explaining it. If your CV has something you were really passionate about, let that show through your voice. For explaining PORs and work, the STAR method is preferable. I referred to Arun Sharma and TIME for quant. Prepleaf is great for giving tests and practising questions. Cracking the PM Interview and Decode and Conquer are good reads for PM roles.

- Aditi Pathak
Mastercard

YouTube channel Exponent and a website named stellar peers helped me a lot during my preparation. Decode and Conquer and Cracking the PM interview also gave me exposure to a variety of cases and important frameworks.

- Yatharth Dahiya
Bajaj

I started with this foundational article on Product Management by Daniel Schmidt, went on to read Swipe to Unlock, for getting familiar with technical jargon and How to Crack the PM Interview for guess estimates and case studies. Most of my preparation time went into practising cases with different people. I made it a point to do it with new people; it helped me gain diverse perspectives. I practised more than 30 cases of each type (product thinking and root cause analysis).

- Priyanshi Porwal
Mastercard

Try to cover topics and framework from Decode and Conquer (especially CIRCLES method), Victor Cheng videos. Try to be flexible with the framework, you don't need to follow a strict set of rules every time to solve a case. Most of them won't even look at your resume for product roles. Make sure you cover shortcoming in your solutions and metrics to check the same.

- Aanshi Mehta
Standard Chartered

Prepare well in advance on the technical front for product roles. Prepare justification of extremely low/high CGPA in advance. Try to build a two-way conversation with the interviewee; it always helps in clarifying objectives and goals.

- Harish Chakravarthi
Flipkart ABA

Prepare for all companies within your choice of role, do not be focused on a single company, as you never know what unexpected circumstances may occur. Preparation for one company will help you with other company as well.

- Siddhartha Malani
Lendingkart BA

Make your own frameworks for Product Interviews. You can and should refer to material, but in the end, it is best to develop your own frameworks, with as many mock interviews as you can with your peers. I feel solving actual cases with your peers would help you more than reading books on the same.

- Himanshu Choudhary
ICICI Bank

If you pitch something in an APM Interview, do it confidently. Study the company you are giving the interview for in-depth. HULM courses, like fundamentals of management for engineers, project management, are beneficial. How to crack PM Interview is must-read for APM interviews.

- Meghna Gadamchetty
Grofers APM

CONTRIBUTORS

We would like to acknowledge the efforts of the following Club members for their hard work and efforts involved in the compilation of the first edition of the Casebook. We would also want to thank Arya Vivek for designing the cover page and Addya Joshi for editing and formatting the Casebook.

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