

95-888 - Data Focused Python



OK Deal!

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Carnegie Mellon University Australia

Agenda

- Vision
- Team
- Problem
- Approach / Solution
- Market
- Business Model
- Competition
- Go-to-Market
- Lessons Learnt
- Future Enhancements

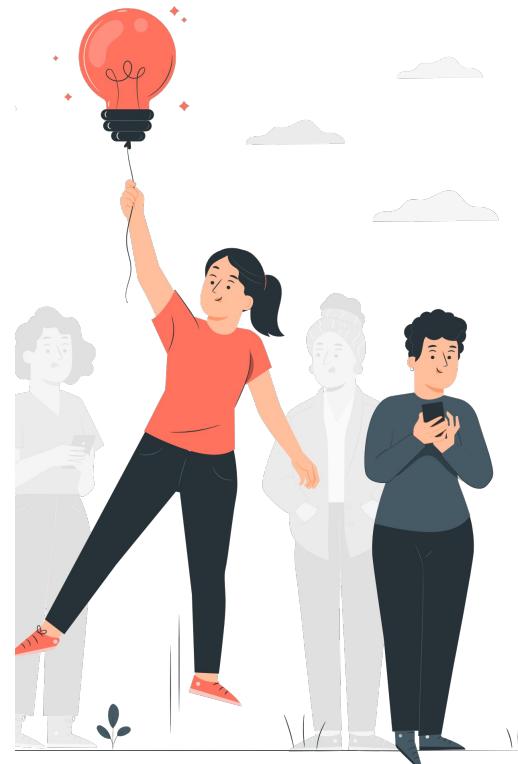


Let's meet Scotty and Anna first!

Anna was walking through the park one Monday morning and realized she wants to buy a new phone.

Our mascot, Scotty, the neighbourhood's fav pet, offered to help her out!

With that let's delve into how he helped her find the best phone deals..



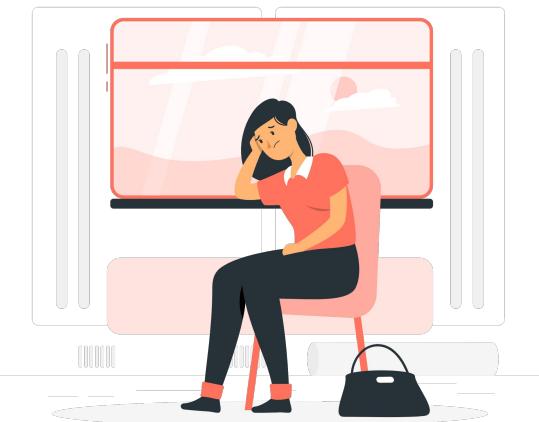
1

Our Vision



- To build a comprehensive platform for end customers, and provide an in-depth analysis of a **product's specifications** along with **social feedback** (customer ratings and reviews) aggregated across various sites.
- This would help users make more informed decisions by investing a fraction of their time rather than having to scour the internet for relevant information
- Our ultimate goal is to become the **one-and-only stop** for customers before they make a purchase

Anna is so overwhelmed looking at different prices on each website! The logical choice would be to choose the lowest price but is that a vendor she can trust fully?



iPhone 11

★★★★★ 34,133 reviews

Storage Capacity ▾ Colour ▾

Sold by	Product info	Details & Special offers	Item price	Total price
amazon.in	128 GB · Black		₹47,900.00	₹47,900.00 +Tax
Maple Store	256 GB · White	Free delivery	₹63,602.00	₹63,602.00 +Tax
Reliance Digital	64 GB · Purple	Free delivery	₹47,905.00	₹47,905.00 +Tax
Unicorn Store	128 GB · Green	Free delivery	₹53,253.00	₹53,253.00 +Tax
Cellbuddy	64 GB	Free delivery	₹37,999.00	₹37,999.00 +Tax
Flipkart	64 GB · Black		₹49,900.00	₹49,900.00 +Tax
iVenus - Apple Premium Reseller	64 GB · Purple	Free delivery	₹48,900.00	₹48,900.00 +Tax
TataCLiQ.com	64 GB · White	Free delivery	₹49,900.00	₹49,900.00 +Tax
Best of Indian Products	128 GB · Black	₹10 delivery	₹59,900.00	₹59,910.00 +Tax
Techinn.com	64 GB · Green	₹1,822.99 delivery	₹49,522.99	₹51,345.98 +Tax
galaxyventures18.com	iPhone 11		₹43,900.00	₹43,900.00 +Tax

Lots of tabs, lots of time, lots of money??(time is money)

Top reviews from India



Neha

★★★★★ Do not buy iphone or expensive product from Ar
Reviewed in India on 10 July 2020

Verified Purchase

Please do not buy expensive product like iphone from Amazon, i missing and had sound quality issues. Amazon initial told charge challenged it they asked reimburse the cord amount, but i reque called me and informed that they dont take responsibility of mis they dont follow, you can read the email conversation attached i the call recordings as well. At last they denied the phone replace cord. For any damage or quality issues they said amazon is not rr



29,288 people found this helpful

[Helpful](#) | [Report abuse](#)

Krushna

★★★★★ Don't buy it from this seller
Reviewed in India on 13 November 2019

Verified Purchase

Bought the mobile from appario retail ltd. Mobile aren't working properly. Particularly in portrait mode. I raised the same to apple customer care. Amazon customer care told me that they need a service center is located at 210km from my place. cost. Before you buy anything from this seller just seller. What ever they sell u will find defective product in quota. Please be safe and don't regret after.



Apple iPhone 11 (64GB) Apple iPhone 11

Visit the Apple Store
★★★★★ 48,896 ratings
| 1000+ answered questions
Amazon's Choice for "11"

M.R.P.: ₹54,900.00
Price: ₹47,900.00 Fulfilled by Amazon
You Save: ₹7,000.00 (13%)
Inclusive of all taxes
EMI starts at ₹2,255. No Cost EMI available
7-day replacement only
Size name: 64GB
Colour: Black
₹47,900.00 ₹47,900.00

Pattern name: iPhone 11
Model Name: iPhone 11
Wireless Carrier: Unlocked
Brand: Apple
App: Electronics
From Factor: See more



Released: Sep 20, 2019
PhoneArena Score: 8.5 [Review](#)
Display: 6.1 inches 1792 x 828 pixels
User Score: 9.0 [User reviews](#)

Camera: 12 MP (Ultra wide-camera)
12 MP (Wide-camera)
Hardware: Apple A13 Bionic
4GB RAM

DESCRIPTION

The iPhone 11 serves as the de facto successor to the iPhone XR. It scores a 12MP ultra wide-angle camera at the rear which has a focal length of just 13mm and an aperture of F2.4. The iPhone 11 also gets a dedicated Night Mode for the camera, a new 12MP FaceTime selfie...

Show more ▾ [Login](#) [More](#) [Cart](#)

151002

Apple iPhone 11 (64GB ROM, 4GB RAM, White)

PRODUCT ID: 230107 ★★★★★ (5.7K Reviews and 77,205 Ratings & 5,844 Review)

₹47,990.00 MRP ₹49,900.00 (Inclusive of all taxes)

From ₹2,255/mo [EMI options](#)

₹ Extra Savings (5 Offers) [View All Offers](#)

Buy & Get Hyphen Back Case and Screen Protector But Free

[Connect to Store](#) [Shop with Video](#)

Apple iPhone 11 (64GB ROM, 4GB RAM, White) ₹47,990.00 40% off



Home > Mobiles & Accessories > Mobiles > APPLE Mobiles > Apple iPhone 11

Apple iPhone 11 (White, 64 GB) (Includes EarPods, Power Adapter)

₹49,900 ⓘ

Available offers

- Bank Offer 5% Unlimited Cashback on Flipkart Axis Bank Credit Card T&C
- Bank Offer 20% off on 1st txn with Aman Network Cards issued by ICICI Bank, IndusInd Bank, SBI Cards and others
- Bank Offer 15% instant discount on first Pay Later order of ₹500 and above T&C
- Freebie Free 30 days cutpass live T&C

[View 3 more offers](#)

Buy without Exchange ₹49,900



Home

Explore

Notifications



iphone 11

Top

Re

Apple

Tech brain



iphone 11

550 Tweets in the last hour

iphone 11 pro max

iphone 11 ibox

ideas

Follow

Yikes those are a whole lot of tabs! Looks like Anna is going to need some help!

Scotty says, “Anna let me introduce you to my friends at OK Deal! I’m sure you’ll be able to buy just the product you’re looking for at the right price and with a friend by your side to guide you!”



2

Meet The Team



[Adrian Menezes](#)

Chief Executive Officer

Past: Antares Tech (1 year)



[Gautam Naik](#)

Chief Technology Officer

Past: Code-B (1 year)



[Michael Affare](#)

Chief Operating Officer

Past: AirtelTigo (3 years)



Ruchi Bhatia

Chief Information Officer, Data Science

Past: Colgate-Palmolive (1 year)



Shivam Patel

Chief Financial Officer

Past: IIT Gandhinagar (1 year)



Stephen Wang

Chief Marketing Officer

Past: SAP Consultant (3 years)

3 Problem

Customer Pain Point

Time-consuming research before purchasing a new product (Example: mobile)

Current Solution

- Price comparison **without** detailed product specifications
- **No section** for customer reviews across different platforms

Competitors' Pricing

Free

Why is it broken?

No all-in-one solution, with a price comparison, feature specifications and customer feedback



Problem, problem, problem

iPhone 11

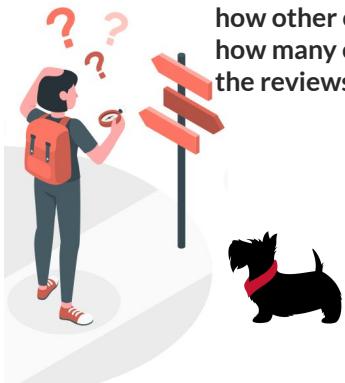
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Anna: "Google and several other websites aggregate prices, Scotty, what makes OK Deal! different?"

Scotty: "Interesting question! Other websites just aggregate the data but we help you decide **whether the platform is trustworthy or not** by allowing you to see **how other customers rated the product, how many customers rated the product, and the reviews!**"



Problem, problem, problem

Scotty: "For instance, let's consider two products from Amazon, the product rating and the number of ratings. Which of these two would you trust more?



48,896 ratings



472 ratings

Naturally the one on the left! Although the average product rating is the same, **more people are vouching for the quality of this product.**

This metric allows us to **make an informed decision.**

There can be times when there are just 10 ratings and all are 5 star reviews. Seems fishy ain't it?"



Problem, problem, problem



Scotty: "Here's another issue.

There are multiple sellers selling on Amazon.

You look at the average rating and buy the product, and when the order arrives at your doorstep, you open the box full of happiness and excitement. To your horror, the product seems to be used, has heating issues. You call up Amazon asking for a replacement/refund.

The Customer Service person tells you that she can't help you because Amazon is just a website for helping the seller and buyer connect.

You're left clueless..you hadn't read the reviews.."

Top reviews from India



Neha

★☆☆☆☆ **Do not buy iphone or expensive product from Amazon**

Reviewed in India on 10 July 2020

Verified Purchase

Please do not buy expensive product like iphone from Amazon, i had very bad exp, the charger cord was missing and had sound quality issues. Amazon initial told charger doesn't come in box and when i challenged it they asked reimburse the cord amount, but i requested a replacement, after some days they called me and informed that they dont take responsibility of missing items, and 10 day replacement policy they dont follow, you can read the email conversation attached here where i mentioned every thing, i have the call recordings as well. At last they denied the phone replacement and even to provide the missing cord. For any damage or quality issues they said amazon is not responsible.



29,288 people found this helpful

Helpful

| Report abuse



Krushna

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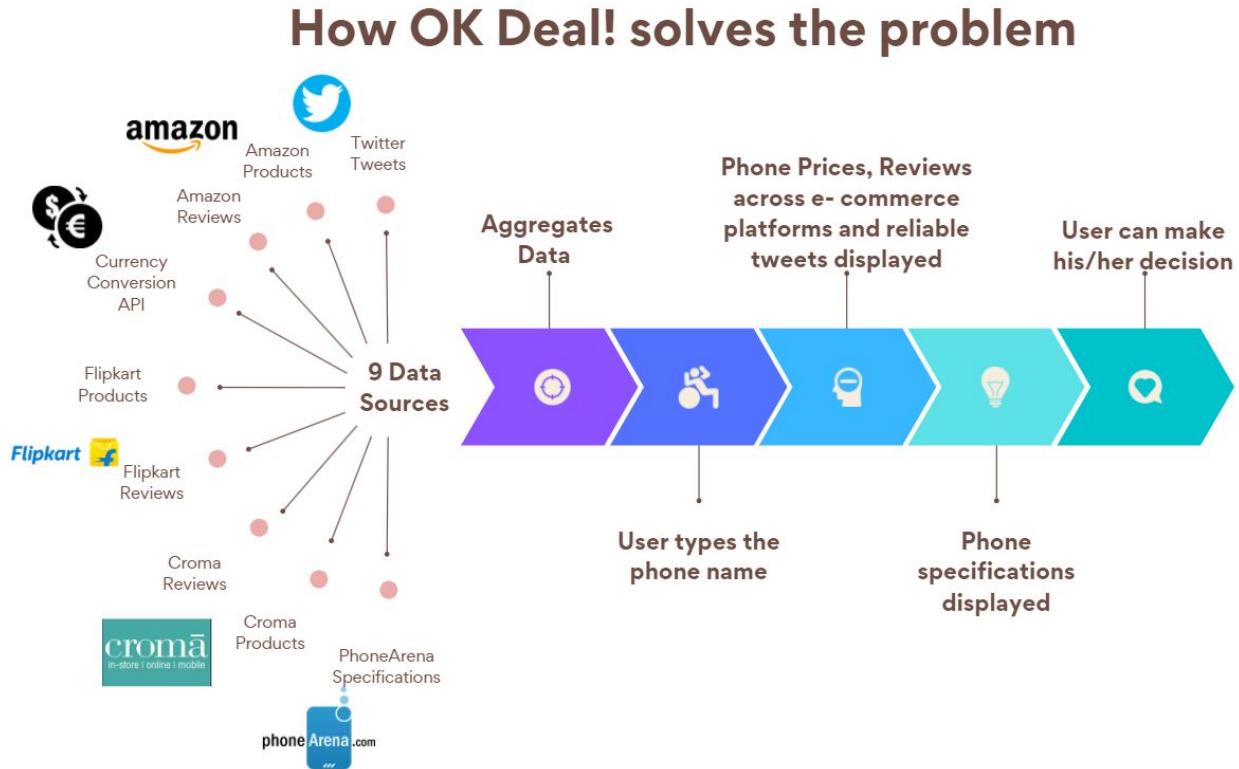
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OK Deal!'s Solution

Scotty: "Here's how OK Deal can help!"

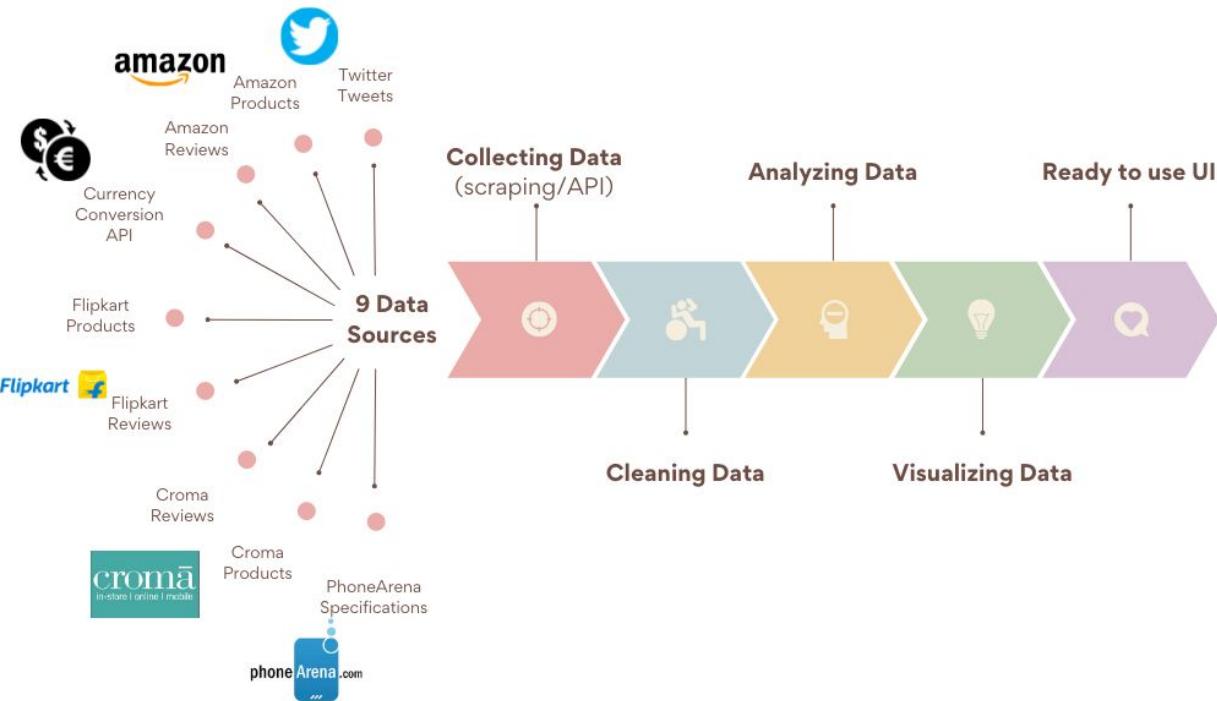
With that, I bid goodbye! Over to you folks!"



4 Our Solution

Step by Step

OK Deal!'s Flow Chart



Our Product

- Provide customers **relevant information all in one place**, saving them hours of effort scouring through the internet looking for a product and then comparing reviews, etc.
- Our product aims to become the **single source of truth for all product (mobile) purchases**

Value Proposition

- **Save time, effort and uncertainty** of searching all over the internet for a product
- **Chatbot functionality** to address common doubts, connecting user to expert if requested
- **Advice from experts** to non-tech savvy customers (small fee charged), to guide them based on their requirements

Impact On The Customer

- **Save customers' time and effort** from having to do the detailed research before making a purchase
- Help customer **make the right choice** and **save money**
- **Increases consumer surplus in market** since the customer ends up buying a product at a lesser price
- Help the customer **feel confident about the choice** they are making by providing relevant information
- Our databases are updated daily, so the customer sees fresh information!

5 Market

Market/Target Customers

Our target market is three-folds:

- **Customers** who would use our platform as a one-stop solution before making a purchase
- **Companies** using our solution for advertisements
- **E-commerce websites** who would use our service to get their products listed on a commission or subscription basis



Market Size

- Customer market = 54% of India's current population (748 million) - Population that has access to a smartphones and internet
- E-commerce platforms = Amazon, Flipkart, Croma, any new potential e-commerce platform

Market Forces/Drivers

- **Rising population of smartphone users in India** will significantly enhance the use of our platform.
- Further, **cheaply available internet** connections will help our product flourish among the huge population of internet users.
- **Growing e-commerce platforms** will also act as a big driver to our platform
- There has been **increasing e-commerce transactions** globally. These would make users have familiarity with using our product.

6 Business Model

How do we make money?

Revenue Streams - Set 1

Business to Consumer (B2C):



- **Premium features** - We will be charging customers a small **weekly/monthly fee** that would allow them **access to premium services** like unlimited searches or additional discount during festive seasons, etc.
- **API** - As for Developers, we will provide them access to a developer API as a paid integration (based on usage) to leverage our aggregated & cleaned data.

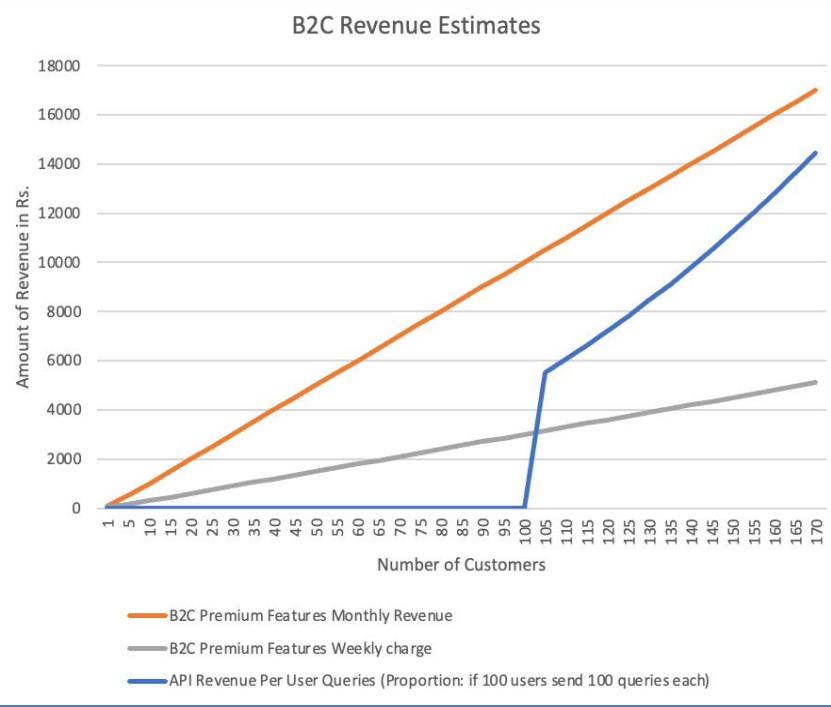
How do we make money?

Revenue Streams - Set 2

Business to Business (B2B):

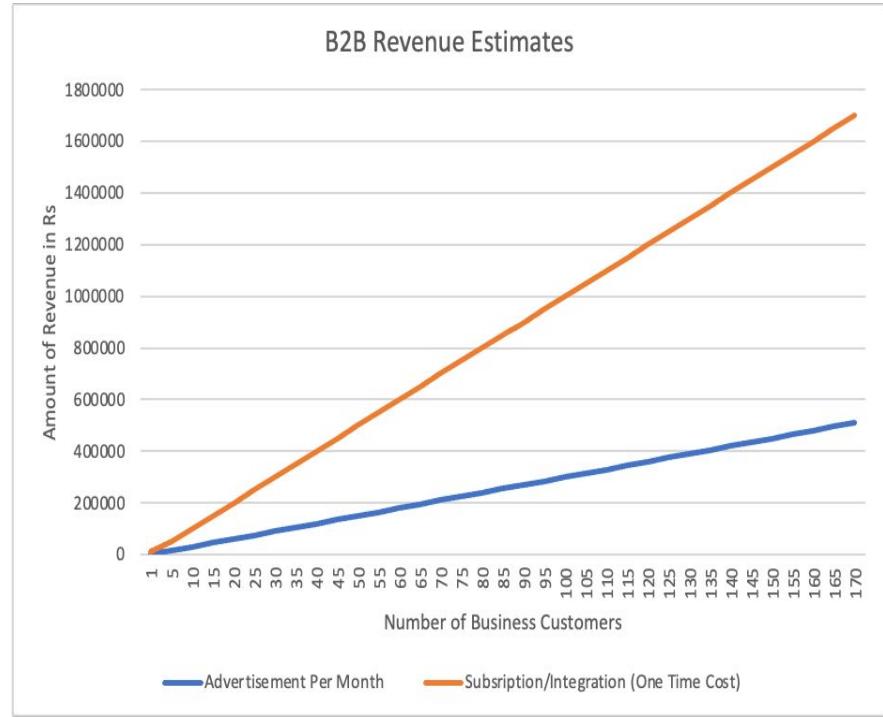
- **Advertisement** - We plan to become a singular aggregated platform with high traffic using our free services. We would leverage the huge customer base to show our users targeted and relevant ads.
- **Commission** - We plan to charge a commission fee from e-commerce brands for the traffic we would send to their websites as a measure of conversion sales.
- **Subscription** - New e-commerce brands would be charged a one-time integration fee for having their products listed on our platform.

Revenue Estimates



Projected Revenues from individual users

1. Premium features
2. API user revenue



Projected Revenues from business partners through

1. Advertisement
2. Subscriptions

Pricing Details

Business to Consumer (B2C):

- **Premium features** - Weekly (Rs. 30)/Monthly subscription (Rs. 100)
- **API** - Tiered (free for first 100 queries in a month/charged Rs. 0.5 for each next query)

Business to Business (B2B):

- **Advertisement** - Website ad-space for related products (Rs. 3,000/month)
- **Commission** - Resale of business partner products on website (1% per conversion)
- **Subscription** - Partner e-commerce brands (Rs. 10,000)

Metrics & Estimations

Average Order Value (AOV)

- Premium features - Estimated 10,000 customers per week

$$\text{AOV} = 10,000 \text{ customers} * \text{Rs. } 30 = \text{Rs. } 300,000/\text{week}$$

- API - Estimated 1000 customers in a month with 1000 queries

$$\text{AOV} = 1000 \text{ customers} * 900 \text{ billable queries} * \text{Rs. } 0.5 \Rightarrow \text{Rs. } 450,000/\text{month}$$

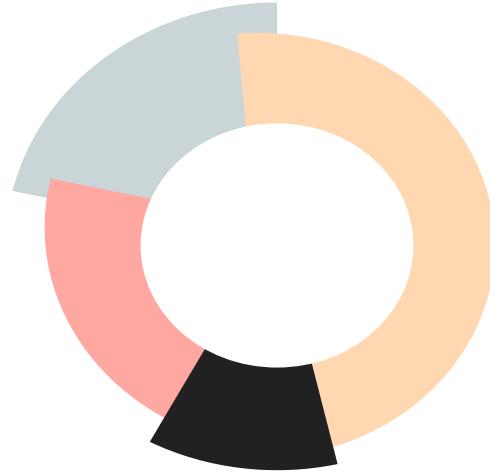
Customer Churn Rate - Monitor premium users' churn rate

Net Revenue Churn Rate - Revenue generated from the revenue streams

7 Competition

Key Players

- 91Mobiles
- Smartprix



How Are We Different?

- We offer **price comparison** along with **in-depth feature specification analysis**
- We provide **aggregated reviews and feedback** across different ecommerce platforms
- We aim to **mobilise smaller stores to sell online** too
- We also plan to **facilitate a customer-to-customer reselling platform**
- We provide a **developer support (via API)** to help developers integrate our product

8 Launch Strategy

Customer acquisition approach

- To initially gain more customer, we will provide free trials to all new users
- Further, we will provide free trial extension to users who refer other users
- We would use advertisements campaigns to publicize our product



Key drivers and potential milestones

- Our first major milestone would be to launch the product to all the states of India
- We would then focus on onboarding individual local vendors as customers
- Other competitor platforms who sell phones will then be integrated on our platform
- We also aim to create developer APIs of our product to help other integrate it into their solutions
- Finally, we would expand our service to other countries/markets

9

Additional Enhancements

Current Additional Enhancements

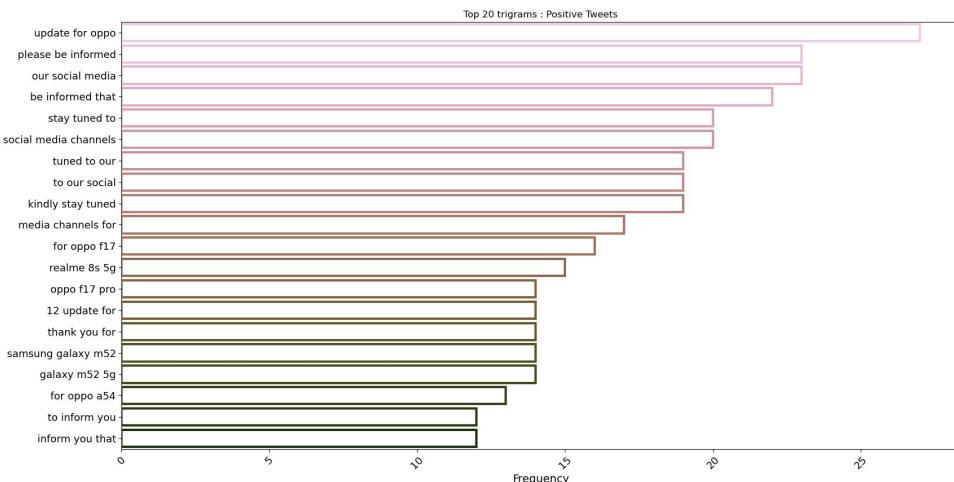
- Tweet sentiments analysis
 - ❖ Analyses tweets and shows results of general sentiments about the product

```
MAIN MENU

1. Search by product name
2. Product analysis visualizations
3. Twitter sentiment analysis visualizations
4. Scrape data
5. Review analysis
0. Exit

Enter the Choice: 3
Twitter Analysis Visualization
1. Positive tweet charts
2. Neutral tweet charts
3. Negative tweet charts
0. Go back

Enter the Choice: ■
```



Current Additional Enhancements

- Product Reviews: most frequently used words

Amazon



Croma

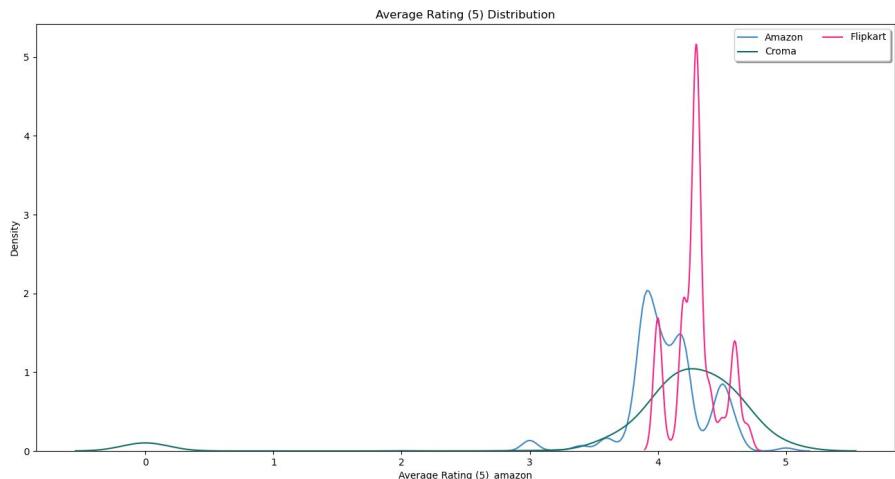
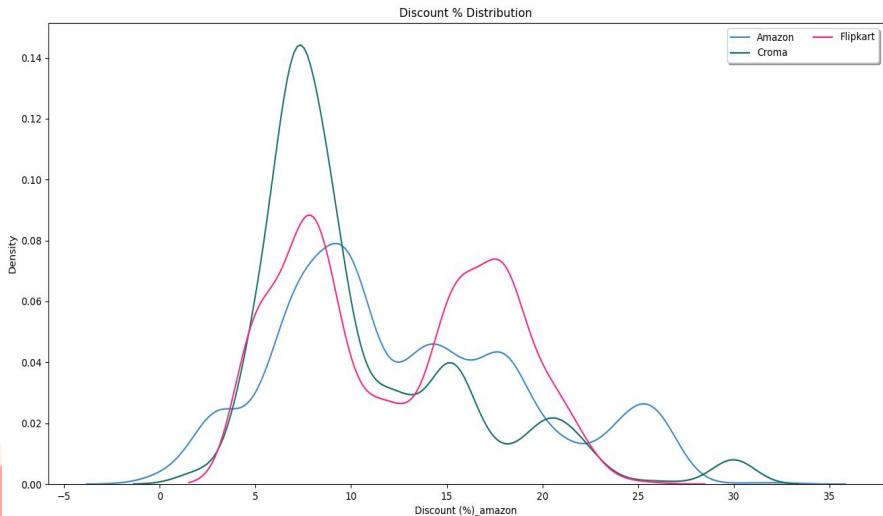


Flipkart



Current Additional Enhancements

- Product Analysis
(Visualization of product analysis/statistics on various platforms)
 - ❖ Visualizes discount %
 - ❖ Visualizes product ratings



Current Additional Enhancements

- **Currency conversions**
 - Gives the user the option to view prices in preferred currency
- **Similar named phones/products - suggestions**
 - System is able to analyse input and suggest phone names that are similar to the user input
- **Summary report on phone comparison from platforms (user query report)**
 - User gets a text file with consolidated analysis of the product prices/results as a report on the checks done across platforms.

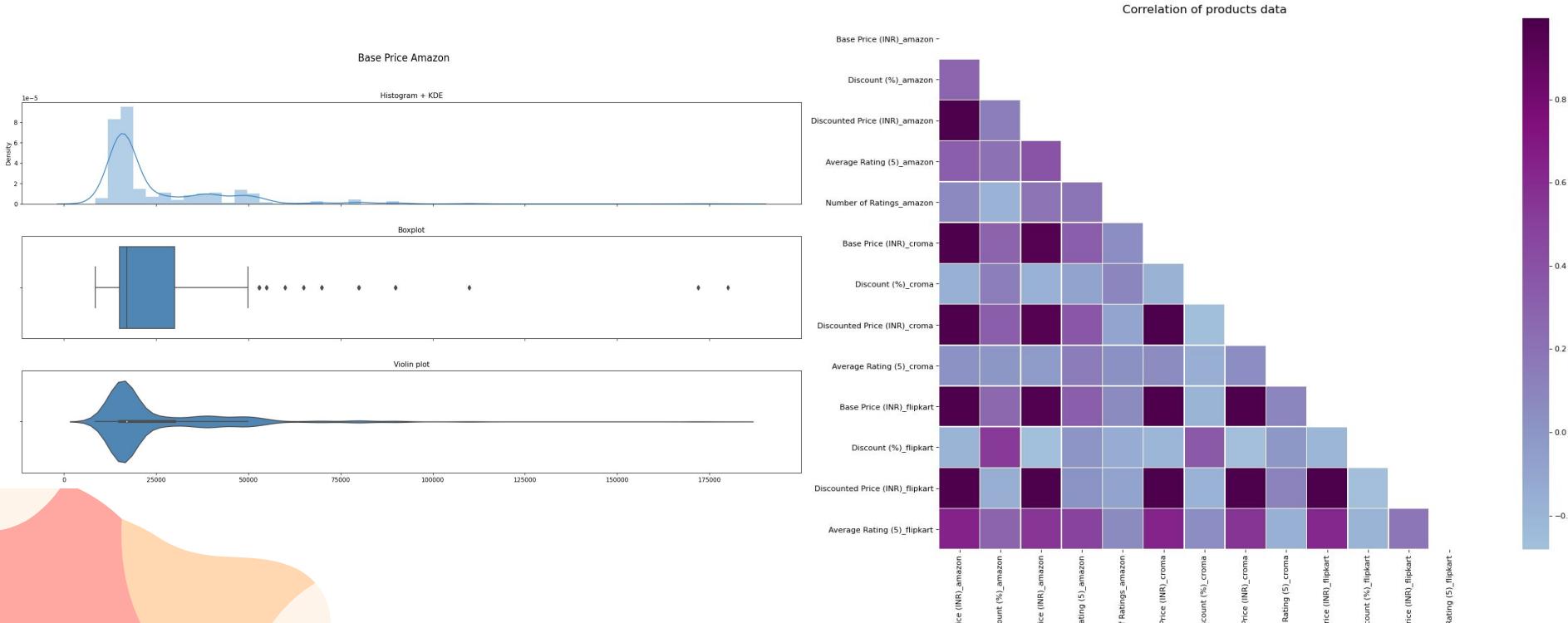
Choose preferred currency
1. Indian Rupee INR
2. United States Dollar USD
3. Australian Dollar AUD
4. EURO EUR
0. Go back
Enter the Choice:

Enter a product name samsung galaxy
Conversion value check 84.949282

Product not found... Showing you some suggestions
Getting suggestions...
1 samsung galaxy m12
2 samsung galaxy a22
3 samsung galaxy a51
4 samsung galaxy a03s
5 samsung galaxy a21s
6 samsung galaxy m02
7 samsung galaxy f02s
8 samsung galaxy m11
9 samsung galaxy a52s 5g
10 samsung galaxy f62
0. Go back
Enter the Choice:

Current Additional Enhancements

Additional plots for deriving insights....



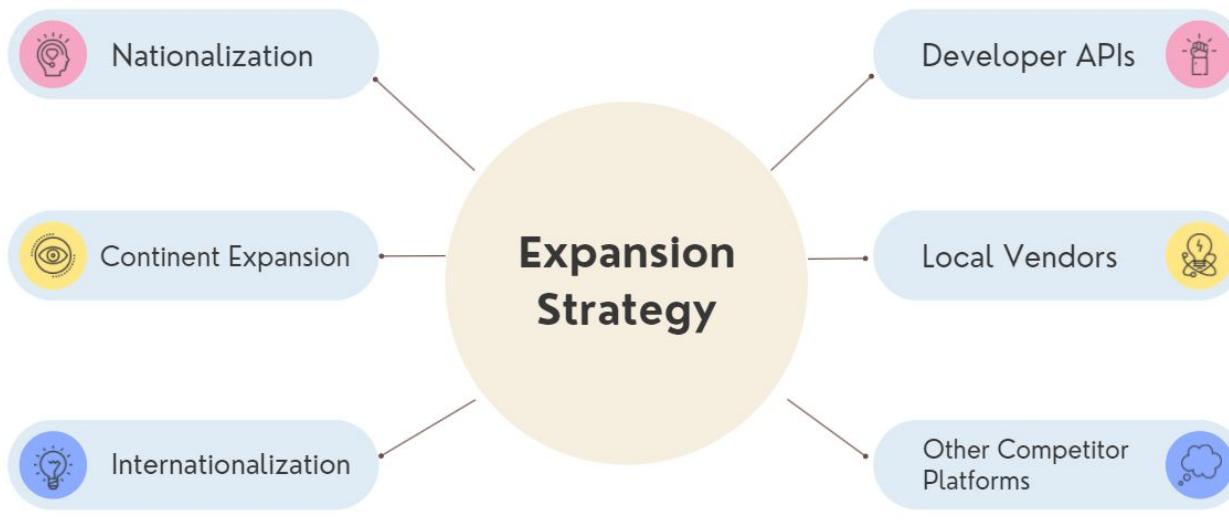
Future Enhancements

OK Deal!'s Expansion Strategy

Currently, our solution is limited to East India. We plan to expand it to all of India in the next 3 months.

In the next 1 year, we aim to cover several countries in the Asian continent.

In the next 1.5 years, we would cover major countries in the world (USA, Australia, China)

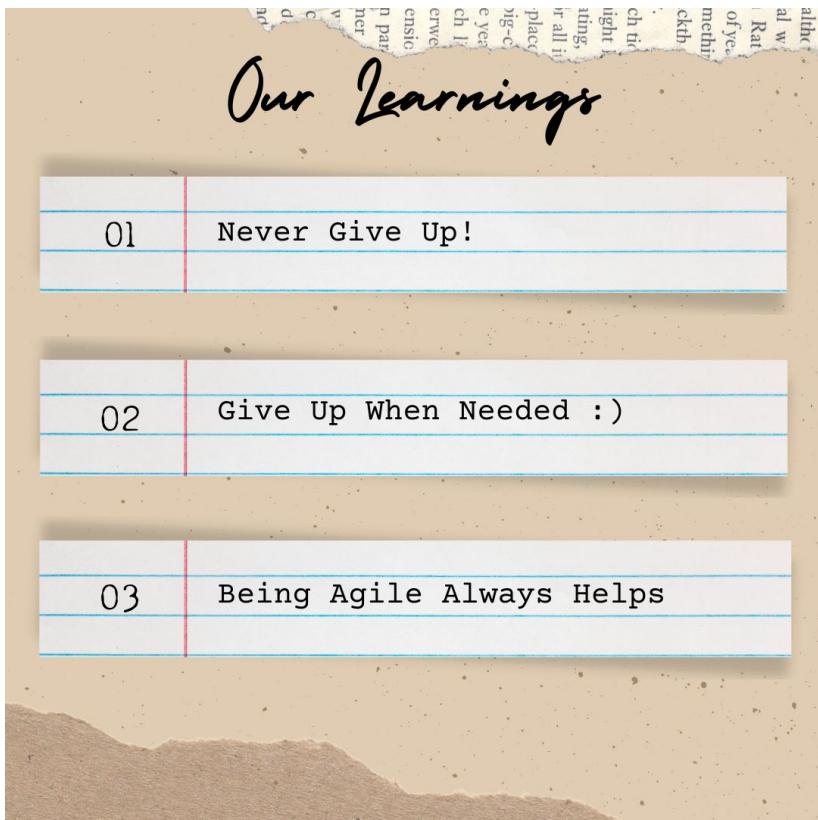


Build API for developers who wish to integrate our solution to their projects.

Add local vendors to the platform who do not have an online solution, charging a marginal fees.

Invite other online retail competitor platforms to be listed on our solution paying some subscription..

10 Learnings



1. After a lot of challenges faced while scraping our data from 9 different sources, eventually our code worked!
2. After a lot of research, we were able to successfully merge our data!
3. After detailed efforts, we were able to consolidate all our code to one main.py file!
So, yes! Never give up!

- Initially we planned to use GSMArena to collect the phone specifications, however due to strict scrapping restriction, it kept blocking our trails.
- We learnt to count our losses and switched to PhoneArena (an alternative)

- We were able to leverage Agile & Scrum principles during our project.
- We learnt that it is always helpful to be Agile: adaptive, iterative and incremental while focusing on extensive collaboration

Our Learnings

04 Getting the hands dirty with different tech stacks can lead to wonderful results

05 Deep Research Is A MUST!!

06 Differential Strategy is the selling point for a startup

Experimenting with BeautifulSoup, Selenium, lxml, requests, pandas, numpy, cosine_similarity, APIs, matlab Plot... ended up with the OK deal sandwich!

Lots of reading, in-and-out of Stack Overflow, YouTube tutorials... before "yay it works". We drew on the power of books too!

As a team working on the OK Deal! startup idea, we learnt loads about creating value as a start-up, organizing the selling points and communicating the value proposition.

Our Learnings

07

Project Monetization

08

Dreaming is important, BUT one
should know how to put them
into ACTION!!

Took some brainstorming and research
to discovering feasible ways to generate
money from the software.

We dreamt about creating this project a
month ago, but we had to learn so many
things along the way to convert our plan
into a strong and working software!



Thanks!