TOMATO

HAPPINESS DELIVERED

A CASE STUDY ON HOW TO IMPROVE OVER ALL FOOD DELIVERY MODEL FOR MAXIMUM CUSTOMER SATISFACTION

SUBMITTED BY TEAM OUT_FLYERS

PROBLEMS

1

DELAYS IN DELIVERY

- Inefficient supply chain to deliver on deadline.
- road blockage due to traffic, rain, emergency issue etc.

2

RAW MATERIAL MANAGEMENT

- poor inventory management
- flexibility of capacity of assembly lines

3

BRAND IMAGE

- valets accidents causing bad publicity
- dissatisfaction due to poor delivery

4

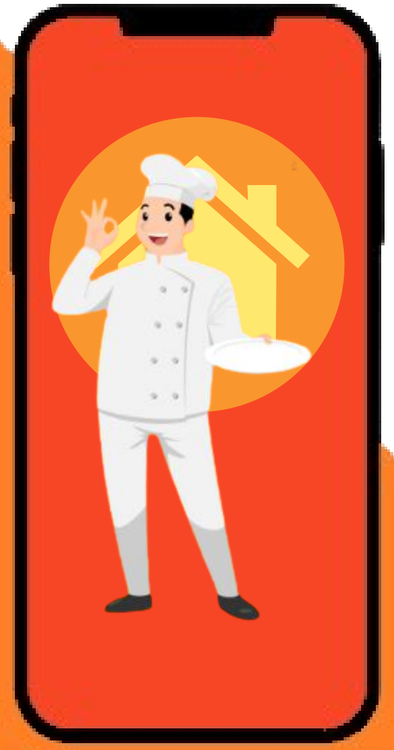
DARK STORES

- the challenge to locate new stores
- optimisation of valets and their location

WE ARE INTRODUCING TWO NEW MODULES TO TACKLE THE ABOVE PROBLEMS COLLECTIVELY

INTRODUCING
TOMATO HOME SWEET HOME

FAST



HEALTHY

SAFE

A platform for all enthusiast home chefs, passionate cooks to sell their food with tomato and earn social as well as monetary rewards from home

Dishes cooked with love from local chefs and quality and safety controlled by tomato services to make yourself at home away from home

Expect the delivery under 10 minute as home chefs are selected strategically near by with greater accesibility

INTRODUCING FAST FOOD TRUCK

FAST

VALET MGMT

LOCALISED

Alternative to finishing rooms , a mobile food truck will roam according to demand forecast of location yet carrying enough stock to meet demands

Each food truck will comprise with permanent no. of valets to deliver and restock. Valet management will collaborate locally with food truck.

Depending on the demand of a locality , food trucks can be customized with less investment thus a greater customer satisfaction is expected

IMPROVED INVENTORY MANAGEMENT

We will integrate mentioned methods as one interface to manage inventory on real time basis

Data of the consumer behaviour; real time data of the orders will be received.

We can utilize the data to estimate the raw materials to be used at a given point of time.

The dark stores or the food trucks will manage their inventory based on raw material estimation to solve the issue of inappropriation of the materials.

For the Tomato Home Sweet Home, chefs need to be informed with the demand forecasted to manage their own inventory.

IMPROVING DELIVERY AND SUPPLY CHAIN

STEP 1

As presented to us in the case study, the food stations take 2.5 mins to cook the food and rest 7.5 mins to deliver the food. We have hold two parameters which may hinder the delivery time.
1.Traffic 2.Rain

So, our aim here will be to fullfill the below condition:
(Time taken to deliver under ideal conditions + Traffic Wait Time + Slow down due to Rain) = 7.5 mins

Now we have created a random model of 1000 samples using binomial distribution to generate a dataset for traffic and rain with the possibility of traffic 60% of the time and possibility of rain 20% of the time.

Also have added a penalty to our model, that if there is traffic our time penalty will be 2 mins and for rain our average speed of the driver goes down by 5kmph

STEP 2

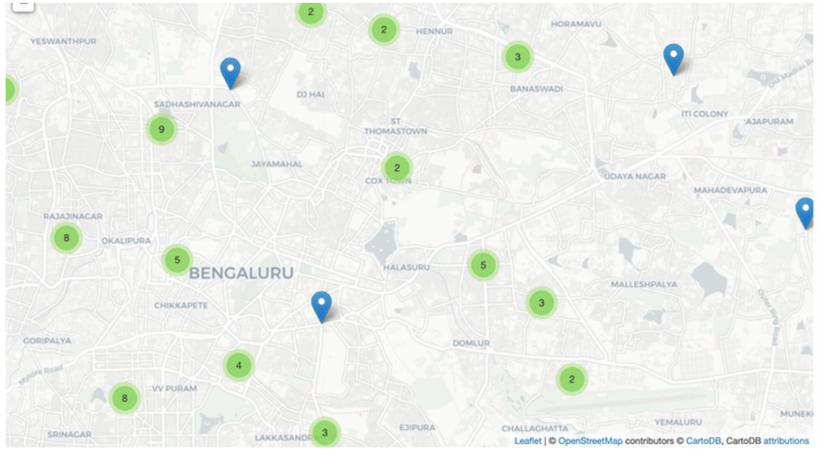
Case 1: Traffic and No Rain
For Traffic time penalty is 2 mins , therefore rider needs to reach in 7.5 – 2 =5.5 mins, taking the average speed to be 25kmph, the rider can reach a maximum distance of 2.29kms.

Case 2: No Traffic and Rain
For Rain the average speed reduces to 20kmph from 25 kmph, time remains 7.5 mins, therefore the maximum distance reachable is 2.5 kms

Case 3: Traffic and Rain Both
Similarly as we did above, time becomes 7.5-2=5.5 and avg speed becomes 20kmph, therefore maximum distance becomes 1.83kms

Case 4: No Traffic and No Rain
Time is 7.5 mins and Speed is 25kmph ,therefore maximum distance is 3.125kms

STEP 3



We have data for online delivery data from Kaggle with 322 line items , where we can see the order locations in Bangalore, have attached a map beside for the locations. We will try to cover all the points in the map with circles of radius 2.5kms , intuitively if we place the food stations at the centre of the circle we will be able to cater to all of the orders given 60%chance of traffic and 20%chance of rain.

IMPROVING DELIVERY AND SUPPLY CHAIN

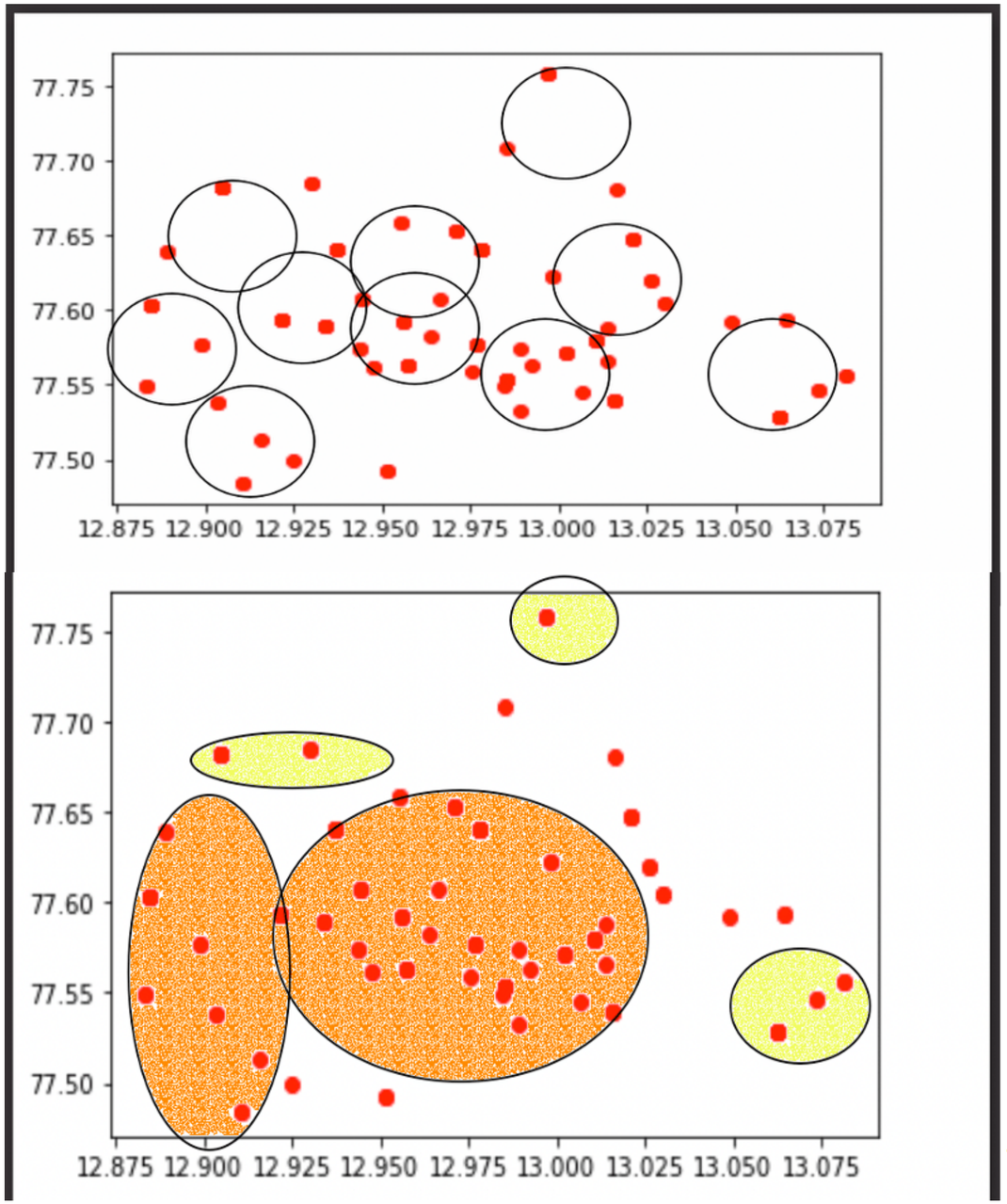
FITTING THE CIRCLES

Have converted the points in the map to x-y coordinates so that we can use them to fit the circles. Here we can see that we can cover 322 orders from different places with 10 food stations, given our contraints..

In our model, we can tune the parameters like below
1.Avg speed can be increased to reduce the number of circles.
2.Areas where there is no traffic or rain, we can put the traffic and penalties to 0 , which reduces the number of cricles.
3.We can use the median or mean or the 75th quartile from the 1000 samples to compute the radius ofthe circles.

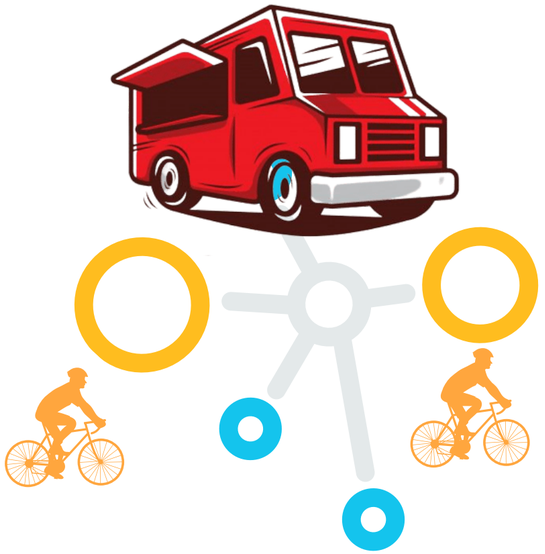
** We can see that not all the points are covered by the circles, as I have put a maximum of 10 circles.

Incase of crowded area where traffic will be more, we can install food trucks to diffuse the pressure , for the deliveries outside the crowded area we can install thefood centres at the centre of the circle.

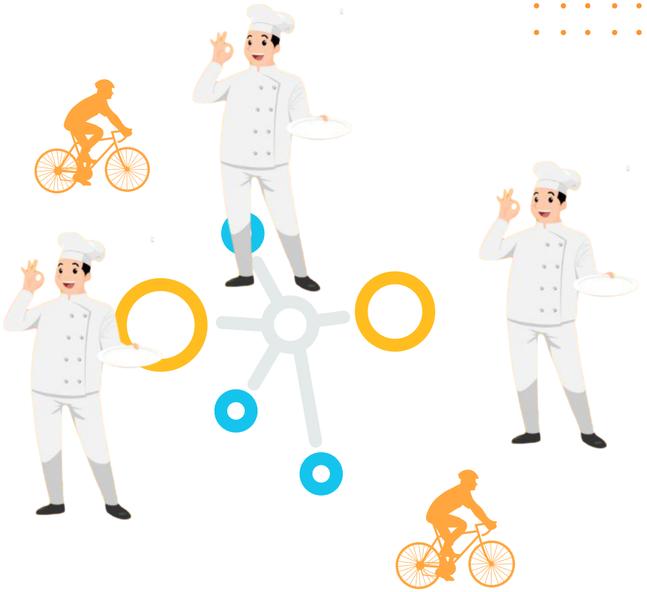


IMPROVED SUPPLY CHAIN AND LAYOUT

Highly densed area will have few new finish stores connected by foodtrucks which support the demand to reduce load



Medium densed urban areas will have foodtrucks supported by permanent number of delivery rides and the location of food trucks will update according to shifts in demands locality



Suburb areas and other areas will have 10 minute delivery by home sweet home model supported by a network of delivery persons and optimised demand forecasting

PUBLIC RELATION STRATEGY

Currently, our brand is viewed as a company which forces and penalises the delivery person for fast delivery and not meeting the customer expectations

Food content on youtube generated 41 billion views with a YOY of 170% growth and the impact is seen in India as Indian cooks gaining millions of subscribers. The Idea is to promote our new module of "Home Sweet Home " by collaborating with top youtube homegrown chefs. The advertisement penetration will be high as well target audience can experience as well a connection to our new module

We will run ads , collaborative social media contents and focusing on the goodness and emotional feelings home cooked food carries . Our present brand image is projected as our organisation is less empathetic . We will solve it by reducing the pressure by supply chain solutions but to gain the positive image we will focus on how home cooked food can bring humanity together which builds a happier community for all parties .

SOURCES AND LINKS

DEMAND DATA SOURCE

Online Food Delivery Preferences-Bangalore region

Assessing online food delivery demand in Bangalore,India

k kaggle.com

YOUTUBE DATA SOURCE

The Growth of Food Content on YouTube [Report]

Food content is exploding on YouTube, generating 41B views on the site. A new report from Google and Tubular highlights some amazing stats. Download it now

Tubular Insights /

THANK YOU!!!