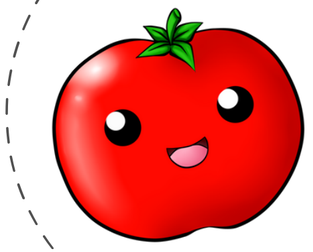
ASCEND GLOBAL
CASE CHALLENGE

Team Lateral Thinkers

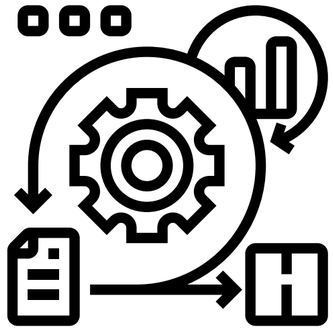
Arnab Dutta
Md Minhaz Rahaman
Nirvik Hazra
Pratik Kumar Raha

Understanding the Problem

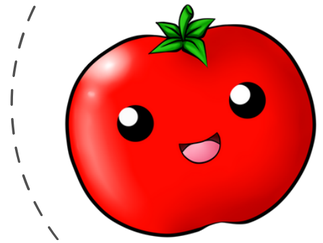


Company Tomato Ltd. has entered in the 10 minute delivery system to expand its market and provide more satisfiable service to its customers. Tomato Ltd. has already started implementing the 10 minute delivery system but has faced some major issues in achieving their target:

- The road traffic makes 10 minute delivery a tough task to achieve. Delivery personnel has been under immense pressure in achieving the task and has faced with accidents, also many opting to leave the company
- Wastage or shortcomings of raw materials at finishing centers
- Other recent mistakes like providing non veg food to a veg order has hampered Tomato's Public Relations greatly

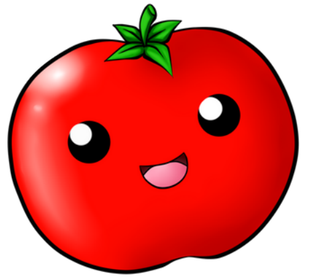


Planning & Framework



- For proper planning and implementation of the idea, the first step is analyzing the current situation in detail. As Tomato Ltd. has already started the 10 minutes delivery system, we can collect the data for what orders have been particular in which locations and in which hour for the 10 minute delivery option.
- From this data we can sort and classify the most ordered food items from the top restaurants that will be kept available for during the specified orders. (For eg. say- 'rolls' or 'momos' during evening/snack time have the highest sales and 'biriyani/thalis' during dinner hours have higher sales). This hourly classification will be done because keeping all food items available at all hours will not only be hectic but will lead to lots of wastage.
- Now from this data, we will further **forecast the predicted sales** of the specified items in the given hours and that predicted quantity of items will be sent prepared to the respective finishing centers where they will be stored for the specified hour.
- Once the order is placed, the items will be heated and packed at the finishing center, and will be sent out for delivery by our newly launched **Drone Delivery System**.

SUPPLY CHAIN



PROCUREMENT

After forecasting of the demands, hourly bulk delivery of the selected food items will be done from restaurants to finishing centers satisfying the predicted number of demands.

INVENTORY

Finishing centers where the prepared food will be stored for a short period. Heating and packing the food will be will be done under 2 minutes from the time of ordering. Skilled managerial staff will be present for smooth performances in these busy finishing centres, avoiding chances of flawed deliveries.

DELIVERY

After packaging, the orders will be delivered with the help of automated drones. It will allow faster delivery to farther locations, without the involvement of traffic, hence avoiding the risk of fatalities of on-road deliveries.

FINANCIAL PLANNING FOR THE SUGGESTED MODEL

About the Drone Delivery Model

- Drones used for delivery model generally cost from $3000-$5000
- The drone will have a carrying capacity of 5Kgs
- The drone will have max. speed of 80 Kmph
- The estimated life span of the drone is 5 years
- Taking cost of a single drone as $4000
- Taking maintenance cost as $2,000 for 5 years
- Taking operating cost as $10,000 for 5 years

Cost for Purchase of Drones

Total cost of drone for **Tier I** cities=$4,000*3,750=**$ 15,000,000**
Total cost of drone for **Tier II** cities =$4,000*2,250=**$ 9,000,000**

Cost per delivery

Tier I cities:
Total number of deliveries by a drone if life span of drone is 5 years:-
=>2.5 deliveries/day*12 hours*365 days*5 years= **54,750 orders**
For 12 hours per day operation the cost per package delivered is:
(Cost of drone + operating cost + maintenance cost)/Total deliveries
=> ($4000 + $2000 + $10,000)/65,700=$0.25/order = **Rs 18.75/order**
Tier II cities:
Total number of deliveries by a drone if life span of drone is 5 years:-
2.5 deliveries/day*8 hours*365 days*5 years= **36,500 orders**
For 12 hours per day operation the cost per package delivered is:
=> ($4000 + $2000 + $10,000)/36,500=$0.45/order = **Rs 33/order**

Estimation of Required Quantities

Number of order = 1.5 Million/day
Number of Tier-I cities= 12
Number of Tier II cities= 680 (Approx.)

For Tier I cities:

- Assuming **50% of total daily order are from the Tier-I cities**
- So, number of orders=1,500,000*0.5= **750,000/day**
- Assuming 15% people to be eligible for initial operations period
- Number of instant orders=750,000*0.15=**112,500/day**
- Dividing the order in 12 hour frame=112,500/12=**9,375 orders/hour**
- Taking the number of deliveries by drone in an hour to be = **2.5**
- So, number of drones required for delivery in tier-I cities=9,375/2.5=**3,750 drones**

For Tier II cities:

- Initially expanding in only top 100 tier II cities according to sales
- Assuming **30% of total order from the best 100 performing tier II cities**
- So, number of orders=1,500,000*0.3= **450,000/day**
- Assuming 10% people to be eligible for initial operations period
- Number of instant orders=450,000*0.10=**45,000/day**
- Dividing the order in 8 hour frame=45,000/8=**5,625 orders/hour**
- Taking the number of deliveries by drone in an hour to be = **2.5**
- So, number of drones required for delivery in tier-I cities=9,375/2.5=**2,250 Drones**

FINANCIAL PLANNING FOR THE SUGGESTED MODEL

Revenue Model

- Charging 20-30% commission from restaurants on the orders received by them through Tomato's platform
- Charging advertisement fees from restaurants to rank them higher on the app

Cost for Finishing Stations(FS)

Tier I cities:
Number of FS in a single City= 4
Total number of FS =12*4 = 48
Rent =Rs 70,000/month [Assuming 500 sq ft]
Operation charges/staff payment = Rs 50,000
So, total cost for a FS = Rs (48*120,000) = Rs 5,760,000/month
Transportation cost to each FS = Rs 1,000/hour
Transportation cost/Month for Tier I= Rs (1000*4*12*30*12)= **Rs 17,280,000**

Tier II Cities:
Number of FS in Tier II = 2
So total FS in tier II = 2*100 = 200
Rent = Rs 50,000/month [Assuming 500 sq ft]
Operation charge/staff payment = Rs 50,000/month
So, total cost of tier II FS = Rs(200*100,000)= Rs 20,000,000/month
Transportation cost to each FS = Rs 700/hour
Transportation cost/Month for Tier I= Rs (1000*4*12*30*12)= **Rs 50,400,000**

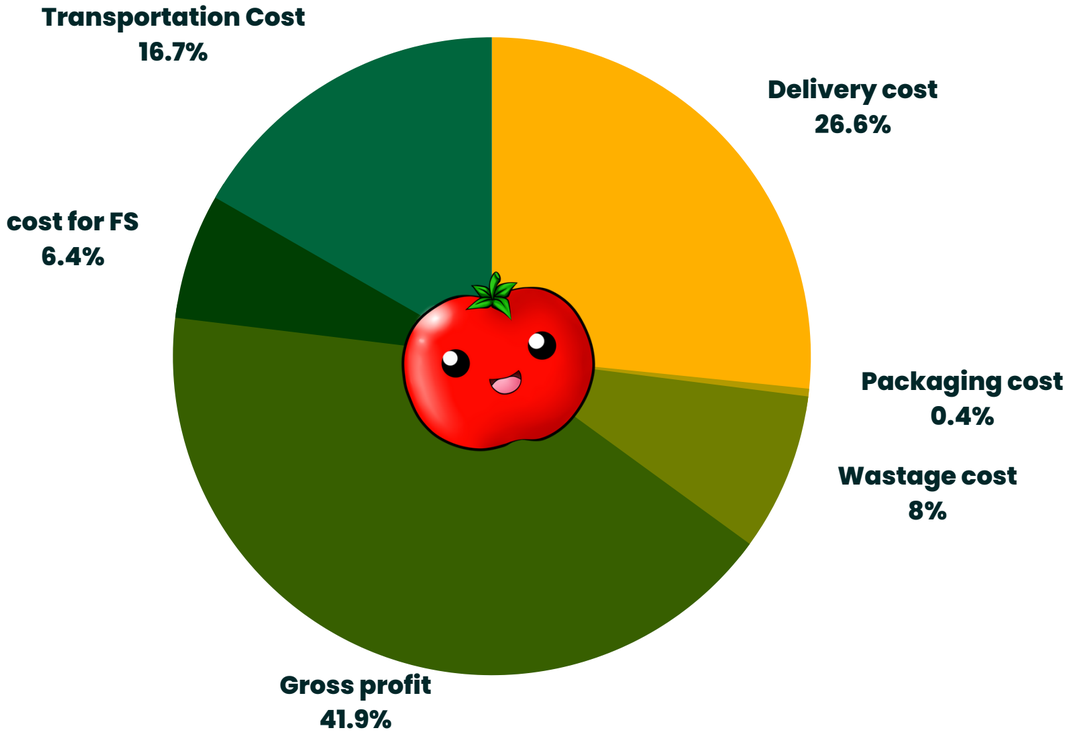
Other costs

- Taking packaging cost as Rs 5/order
- Assuming wastage to be 2% of total order
- More finishing centers might be installed as per need which will be an extra fixed cost for the project

Estimation of feasibility

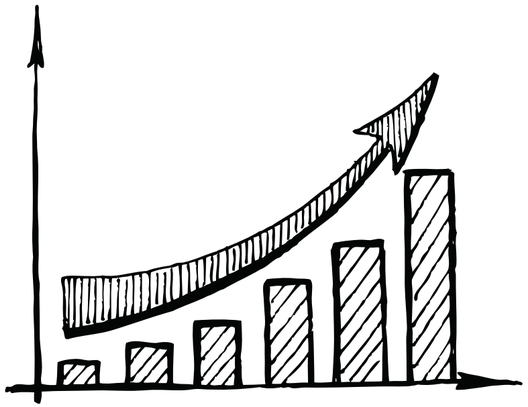
- Taking commission fees as **25% of order value**
- The company has an average order value of Rs.400 in tier 1 cities and Rs. 200 in other cities
- Revenue projected/month = tier I revenue + tier II revenue :
  => Rs (112,500*400 + 45,000*200)*0.25*30 = **Rs 405,000,000/month**
- Delivery cost/month = Rs (18.75*112,500+ 45,000*33)*30 => **Rs 107,831,250/month**
- Total cost for FS = Rs (20,000,000+5,760,000)= **Rs 25,760,000/month**
- Transportation cost= Rs(17,280,000 + 50,400,000)=**Rs 67,680,000**
- Packaging cost/month =Rs (112,500 + 45,000)*10 = **Rs 1,575,000/month**
- Wastage cost/month = Rs 0.02*(112,500*400 + 45,000*200)*30= **Rs 32,400,000**
- Total expenditure/month = **Delivery cost + total cost for FS + packaging cost + Wastage cost+ Transportation cost**= Rs (107,831,250 + 25,760,000 + Rs 67,680,000 + Rs 1,575,000 + Rs 32,400,000)
  => **Rs 235,246,250**
- Gross profit/month = Revenue - Expenditure
  = **Rs 169,753,750**

Implementation Plan and Future Growth



Projected Revenue Breakdown of the Instant Delivery Service Tomato Ltd.

- The delivery per order comes out to be much lesser than Rs.45 which shows that the suggested model is feasible as well as more profitable.
- The gross profit comes out to be around 42% which is quite good.



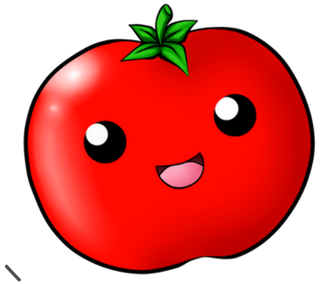
Selection of Initial Customers

For the initial phase, Tomato Ltd. is the provide the Instant delivery service to only 15% of the total orders. So for this, we are to conduct a survey on a large scale to understand which customers actually prefer this Instant delivery mode the most. They can be grouped demographically and a preference list can be created using machine learning algorithms to identify/predict the customers to whom the service should be provided first for higher success rate.

Project Growth

- Tomato Ltd. should expand its Drone Delivery System so as to reduce the overall delivery time, as a result gaining a competitive edge.
- The initial operation month will provide very valuable data which can be used to obtain more accurate forecasting, hence reducing wastages or shortcomings.
- The data from the initial operation months can help in improving the transportation by efficient planning according to the obtained data.

Public Relations Strategy



The aim is to make consumers aware of the new technologies of food delivery and encourage them to accept the change.

Future of Food Delivery

Public Relations Campaign will be done showing that the short time of delivery is due to the efficient supply chain rather than the pressure on delivery staff.

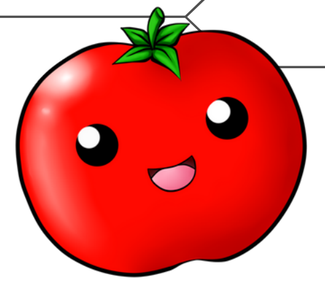
Eat Fresh Stay Fresh

Campaign showing freshness of delivered food inspite of reheating at the station.

No Lives Risked

Campaign showing effectiveness of drone delivery system preventing risking lives of delivery staff.

Future Threats & How to Tackle them



01 Performance

Uncertain possibility of the product malfunctioning and not performing as it was designed and advertised is always a threat that can be minimized but never be brought to zero.
Regular checks of drones to be done to reduce the same.

02 Delivery

Accident or damage possibly from drones getting misrouted to electric wires/ poles/ trees/ buildings or theft of drone or parcel. This can be tackled by improving quality of skill of controllers through practice so that they are operated better avoiding such damages and delivery still being done on time.

03 Privacy

Risks to security since drones can be misused for surveillance, cyber spying, snooping of individuals private and personal data. Government regulatory laws protecting privacy may mitigate these risks.

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