Root Cause Analysis for Swiggy

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Decoding the Problem

Hey, I am Anshul. Let me guide you through my journey. Hop on!

Problem Statement

"You work in Swiggy and the **business** has been growing 10% month-on-month. However, last month - the business has seen a **5% dip**"

What does 'business' mean here?

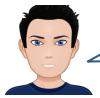
Not clear if it is revenue or profit. **Assuming, it is Revenue**

What does '5% dip' mean?

Not clear if 5% dip means growth rate now is 5% MoM or business is shrinking by 5%. **Just assuming that the impact is sufficient**

Revenue Sources

Commissions	Delivery Charges	Others
Based on order value, rates vary for services like Swiggy Access	Free for new entry cities and amount threshold for other cities	Fees for showing restaurants at top, Swiggy Super, etc

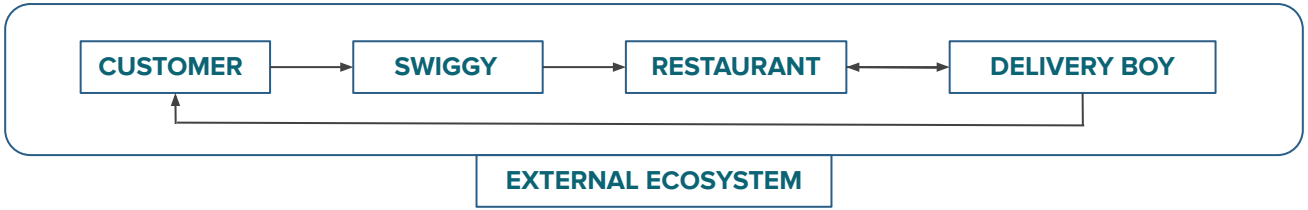


The sentences highlighted in orange are the numbers we need to validate.

Questions	Assumptions	Procedure if assumption doesn't hold
Is it pertinent to any particular geography, say Tier 1 cities which is the major source of business?	Uniform over whole geography	Divide the issue into region specific and non-region which is same as current approach
Is this drop seen over the whole online food ordering market or just with Swiggy?	Swiggy only	Complete segment wise-issue can comprise of factors like internet issue, regulatory changes, bad PR, macroeconomic. Current approach followed can be used for finding other type of root cause
Is it uniform among all user segments (say, generation Z, millennials)?	Uniform among all user segments	Delve into the **Customer** part of the particular segment as done in current approach

The Approach

Online Food Ordering Process



Various Stakeholders

The root cause can be linked to one of the stakeholders. Will look at the possible causes under each stakeholder:

Customer: Customer ordering for lesser amount (basket value) due to various reasons linked to customer

Restaurant: Any deter due to the events related to restaurants

Delivery Boy: Change in logistics owing to delivery boys

Swiggy: Any event internal to Swiggy (pricing & discounts, app updates, UI or technical, policy like cancellation)

External Ecosystem: Comprises of external components like competitors, government, Media,etc

Some of the causes can be common to various stakeholders

Components of Revenue

Swiggy is an aggregator that connects restaurants with customers by providing necessary logistics and digital infrastructure.

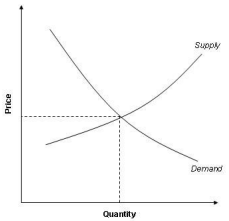
Revenue = Price * Quantity

Thus, revenue can change owing to changes in:

- Price (but demand not changing)
- Quantity (but Price not changing)
- Both Price & Quantity changing as per the conventional demand-supply phenomenon (see figure)

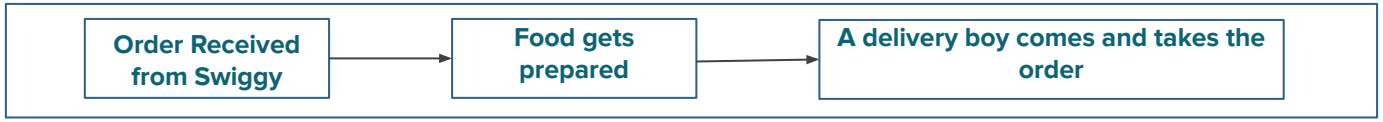
Fall in Quantity lead to decrease in market share which is determined by transaction volumes as these aggregators don't have much pricing power.

I will employ Price and Quantity based Categorisation in future approach



RESTAURANTS

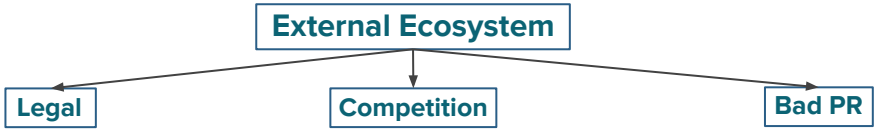
Process Flow



Possible Scenarios	Possible Reasons	Data Required	
Food preparation time increased causing less orders	Preference to orders from competitors or dine-in orders	1. Food preparation time data (current & past) 2. Commissions and incentive structure of Swiggy & its competitors	Quantity related changes
Increase in denial rates (of specific items)	Decline in incentive to fulfill Swiggy orders, including but not limited to giving preference to dine-in or competitor's orders owing to change in Swiggy's or competitor's commission or incentive structure for restaurants	1. Denial rates for Swiggy (current & past) 2. If possible for competitors too (restaurant-wise) 2. Time for which restaurant is taking orders (current & past) 3. For competitors (restaurant-wise) 4. Commission and incentive structure of Swiggy & Competitors 5. Preferential treatment to some particular treatments to some restaurants/chains	
Decrease in availability time on the app			
Decreased prices	Increase in competition from other restaurants/chains coming on online platforms or emerging brick & mortar based chains (24seven stores, serving takeaway food). Change in commission structure by Swiggy	1. Average rupee value of order (current and past) 2. Inclusion of chains/restaurants like McDonalds on Swiggy/competitors' platform) 3. Change in number of Restaurants/Chains on Swiggy 4. Commission structure of Swiggy for restaurants [Say, if past average order value used to be Rs 250 & Swiggy get 25 as commission, now for Rs 200, it will get 20 only	Price related changes

"Quantity related changes mentioned above can lead to decrease in Q, without causing increase in P. Similarly, decrease in P will be required just to sell same amount as before. So, both are leading to decrease in revenue"

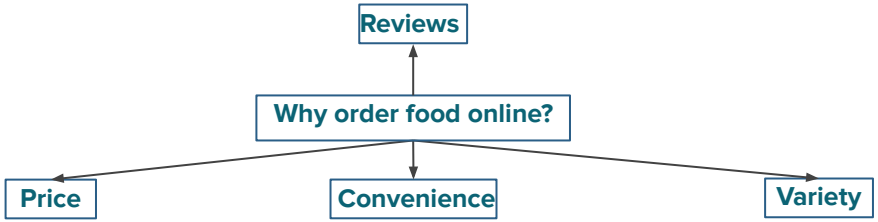
EXTERNAL ECOSYSTEM



Categories	Possible Scenarios	Data Required	
Legal	Regulatory Changes, New laws imposed and Disruptions,say,restriction on delivery hours	1. Any regulatory or legal changes linked to any segment of business whose effect is realised since last month	Quantity related changes
Competition	New competitors (direct, indirect)	1. New online food aggregators in market 2. New Indirect competitors like McDeliver in North India 3. Data on Market Share of delivered food	Quantity related changes
	New offers from existing competitors	1. Any Loyalty programs introduced by competitors for customers, restaurants in past month 2. Additional Monetary or non-Monetary benefits to Restaurants, Customers or delivery boys	
Bad PR	Any bad PR leading to decrease in adoption or quitting of services by Customers, Restaurants or Delivery Boys. Say, if Zomato have taken opposite action in case of communal customer case.	Any major social upheaval (strikes, social media trend) from Customers, Delivery Boys or Restaurants	Quantity related changes

"Quantity related changes mentioned above lead to decrease in Q, without causing increase in P. This causes decrease in revenue and consequently in market share, especially in these type of strong shocks"

CUSTOMER



Categories	Possible Scenarios	Data Required	
Seasonal	Short-time event driven, say owing to long holidays, working people are going home	1. Has this type of decrease happened before (month-wise data) 2. Any festivals/holidays/strikes/judicial proceedings (like Ram Mandir verdict)	Quantity related changes
Permanent	Price centric changes (discounts & discount programs, delivery charge structure and restaurant prices)	1. Change in number of Swiggy Super users or policy 2. Change in number of renewals 3. Change in average discount given / delivery charges Change in restaurant prices covered earlier	Price-Quality related changes
	Variety centric changes: Variety depends on number of available restaurants, their available time and dishes	1. Availability(restaurant open on app) is covered under Restaurants 2. Number of restaurants available on Swiggy (current-past) 3. Any change in the number/type of dishes available for app users	Quantity related changes
	Convenience centric changes like: (i) Increase in waiting time (owing to increase in food preparation/delivery time) (ii) Decrease in waiting time of competitors (iii) Inconvenience due to changes in App	(i) Covered in Restaurants, will be covered under Delivery Boys (ii) Will be covered under Delivery Boys (iii) Will be covered under Swiggy	
	Review centric changes	Will be covered under Swiggy	

"Here 'price-quality related changes' can lead to either increase or decrease in revenue depending on at what level the past price has been to customer (elastic or inelastic). Quantity related changes will decrease Q again without changing Prices, leading to decrease in revenue"

SWIGGY

Process Flow

Categories	Possible Scenarios	Data Required
Login/ Sign up	Problem with OTP, changes in login steps/frequency	1. Bounce rate of Signups/Logins (Current & Past) 2. Change in Login/Sign up steps and frequency
Search for food/ recommendations	Change in search feature or recommendations are not getting clicked	1. Change in number of search queries (MoM) 2. Click Through Rate of recommendations
List of food/restaurant	Change in listing algorithm, paid prioritisation, reviews	1. Algorithmic change in listing, paid prioritisation 2. Change in Review measurement, visibility, introduction of new feature related to it 3. Failure rate of order request to restaurants and drivers (current-past)
Address (New/Past)	Problem in detection of new address, change in new address feature or selecting past address	1. Bounce rate of New Address & Select Address (Current & Past) 2. Change or addition of some capabilities in address feature
Payment	Payment gateways failing, Removal of any payment method	1. Failed payments rate/ bounce rate change in payment 2. Removal of any payment gateway system
Redressal Mechanism & Collection charges	Change in redressal & cancellation visibility & policies	1. Change in number of grievances & look for significant change in any segment of grievances 2. Returning after cancellation instances (current-past)

"Issue(s) stemming from any step of ordering will lead to customer bouncing off from Swiggy ('quantity related change') which leads to decrease in revenue"

DELIVERY BOY

Categories	Possible Scenarios	Data Required
Improved delivery service by competitors	Change in incentive structure or number of drivers leading to speedy delivery and availability of delivery boys, delivery boys attitude, disruptions like strikes	1. Average time to reach restaurants and to customers from restaurant (current-past) 2. Incentive structure (current-past) 3. Number of drivers per restaurant & average active time for delivery boys 4. Change in number of complaints related to delivery boys 5. Change in the average rating of delivery boys 6. Increase in number of complaints & grievances from delivery boys
Decline in delivery service of competitors		

"Increase in delivery service by competitors or decline in services by Swiggy lead to decrease in decline in number of orders ('quantity related change') for Swiggy, leading to decrease in revenues"

USING THE APPROACH

The approach developed can be used to identify the root cause by asking a series of questions in step-wise matter. Consider this example: we are given that revenue falls, and say that all the assumptions taken holds.

First Level: Identify the problem category: Price only, Quantity only, or combined type of problem

First Question: How average rupee value of order and number of orders changed?

Answer: Say, average rupee value has decreased and number of orders hasn't shown any significant change. This means that one of more of "price related changes" has occurred.

Second Level: Look into each category for the identified problem category

Second Question: Has this price drop due to restaurant prices or delivery or discounts?

Answer: Restaurant prices and others have remained same.

Third Level: After identifying the core problem, ask further subsequent questions according to problem identified

Third Question: Has any new chain/restaurant entered into market or just incumbent competitors decreased prices?

Answer: New entrant entered market. McDonalds has tied up with Swiggy for delivery and as it is cheaper than other restaurants, average rupee value of orders in fast food section has decreased!