National College of Ireland

Business Intelligence & Business Analytics
Project Implementation Report

MSc in Data Analytics

Project Submitted by

1. Ganesh More (x18180451)
2. Ameya Dalal (x18184430)
3. Shirish Sonavane (x19164165)
4. Sumit Singh (x19193190)

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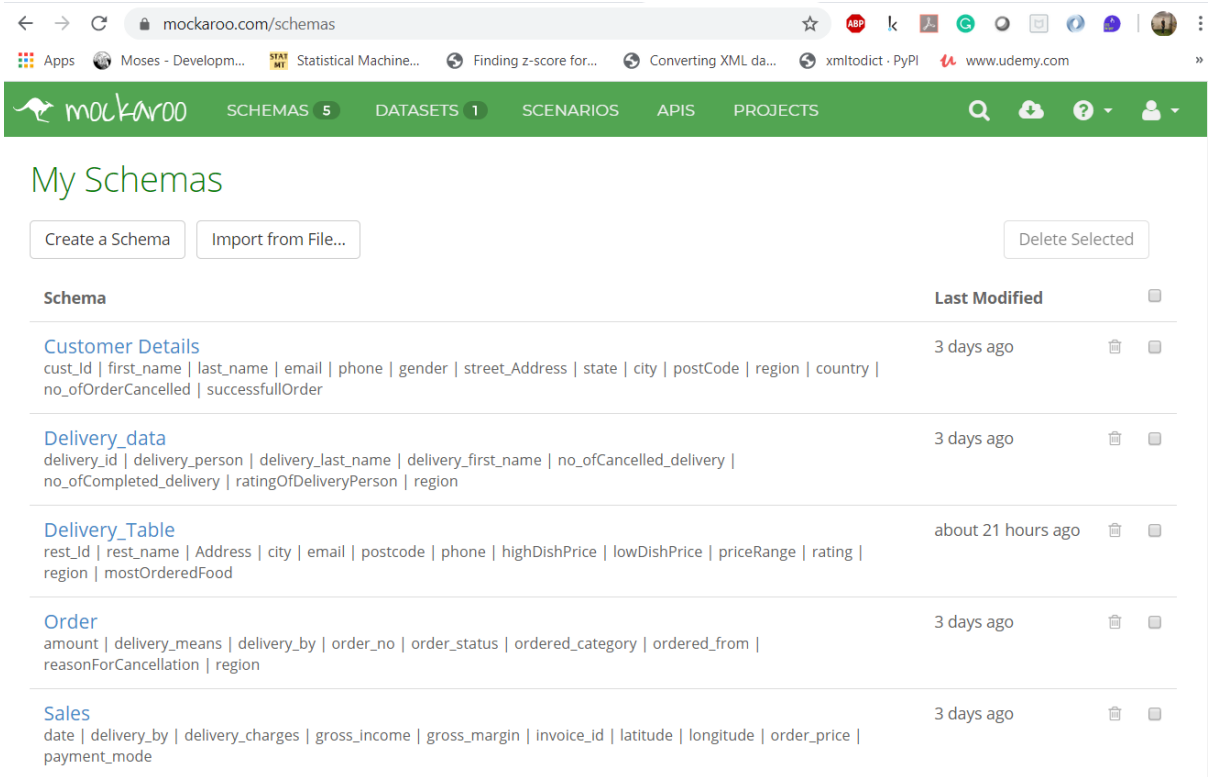
1. Implementation Report:

In order to implement all specified details for the Swiggy in the last report, we need to fabricate a robust architecture for it. There are mostly two types of implementation we are dealing with one is technical aspects to deal with the data and other is non-technical aspects where we show graphical presentation of the data using **Power BI**. **Dynamic 365 CRM** is being used to track to the communication of team with the prospects and existing customers and decide your strategy.

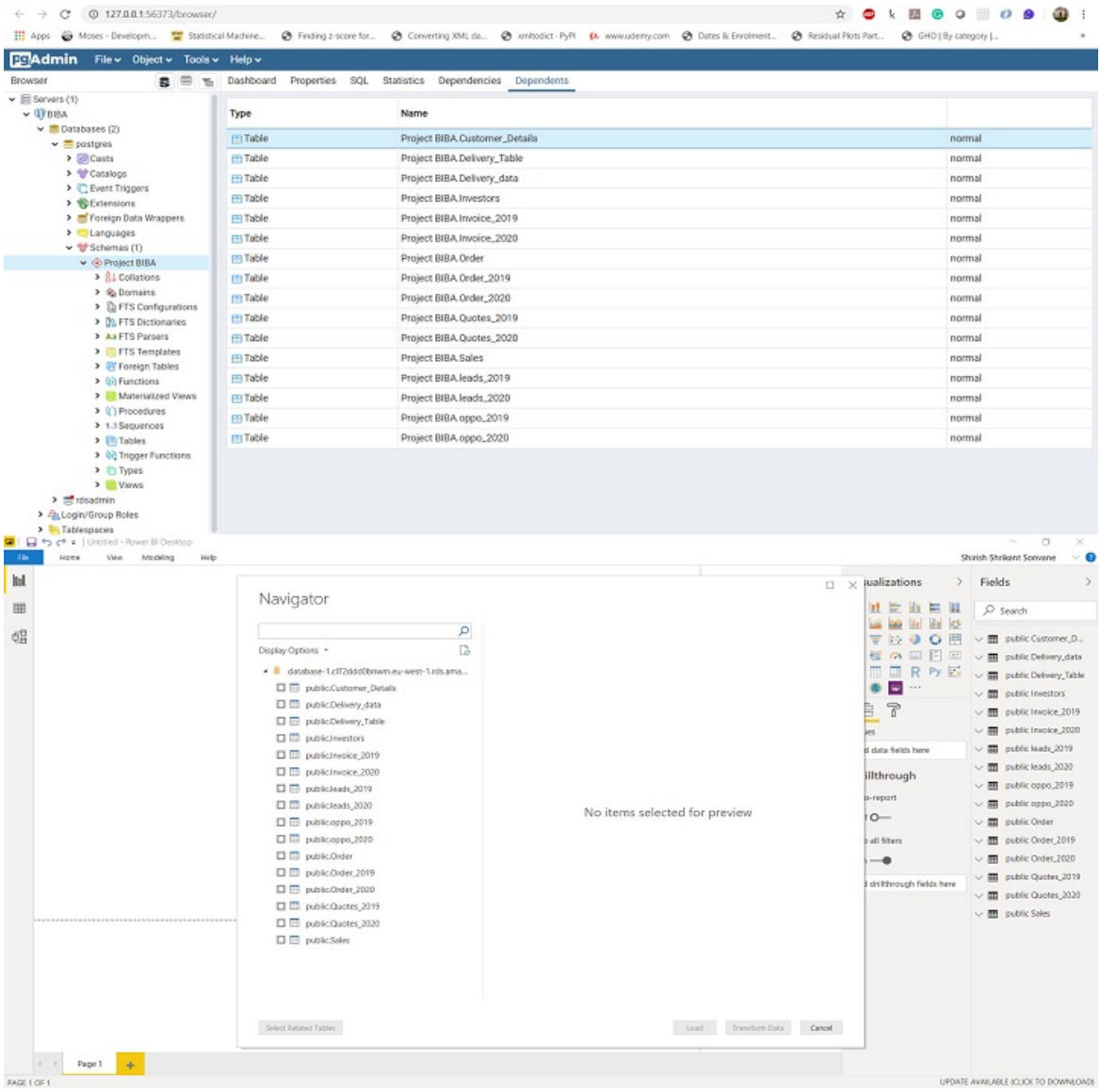
In the Technical aspects, first challenge is to retrieve data which is going to be used in while creating the dashboards. Since we did not get the data from the Swiggy, we had to generate it from the **Mockaroo,** it is online tool to create the data as per our requirement. We have taken the all required data for our project from the here as shown in the fig 1. We have created five different schemas named Customer Details, Delivery_data, Delivery_Table, Order and Sales.



Now, in order to store this data, we are going to need huge storage. For the small-scale company, managing such large data is very tiring work. Mostly such companies go for the cloud storage provided by the big giants like Amazon, Microsoft. Here in our project we have used Amazon to store the data extracted from the Mockaroo. Firstly, we created free tier account on the **AWS.** Amazon provides various databases to store the data on the cloud. Storing data on the cloud has its own advantages. You can access that data anywhere and at any point of time. Here, we have used **Postgres** as our relational database.

We created the database instance, using its endpoint (**database-1.cl72ddd0bnwm.eu-west-1.rds.amazonaws.com**) and user as **Postgres.** We connected it to **pgAdmin 4**, it is application and being used to push the data to cloud server i.e. Postgres as shown in fig 2. While doing so, we came across many technical difficulties which we eventually resolved. Once this connection got successful, we pushed the data.

The advantage of using this technology is that we only have to make the changes in data or add new data only at once, rest gets reflected automatically. Later, we connected the Postgres database to **Power BI** using the same endpoint which we used to connect pgAdmin 4. Connecting Postgres to Power BI was very hectic since we faced so many technical difficulties. After lots of efforts, we connected these tools with other and fetched the data in to mighty Power BI. So, it is very important to have technical employees in our organization to reduce technical dependencies from other sources. This all comes under **Enterprise Resource Planning (ERP)** and that is very important any organization to make their business successful.



2. SWOT Analysis of Swiggy:

Swiggy has now started to adapt online promotion since the launch of digital India (An initiative of government of India) where they make some kind of promotional video and launched on the social sites such as twitter, Facebook, Instagram.

2.1 Strengths:

- Delivering food very quickly i.e. within 30 minutes is the main and very important strength of the Swiggy.
- Swiggy itself has made a brand now, whenever people think of ordering food online the first name comes on the mind is Swiggy.
- Swiggy has groups of well-trained people across the cities.
- Swiggy delivers the food with keeping on the mind all possible hygiene and packaging of it they also provide free delivery.
- Swiggy has tie up with large number of the restaurants, which leads to multiple options for the customers.

2.2 Weakness:

- Customers can only order the food from the restaurants those comes under zone of order placed.
- Swiggy indeed needs some re-structuring of their marketing in order to make this brand more popular.
- Swiggy does still charge some delivery fee in some of the cities in the India.

2.3 Opportunities:

- Swiggy is the first, who introduced the online food delivery system in the India.
- Increasing demand of home delivery food shows that Swiggy has more opportunities in the market. They only few other platforms doing the same business in the market.
- Swiggy needs to build up their zone of ordering food. Also, provides the quality food with reasonable price.

2.4 Threats:

- They need build up more customer base as they have very less as of now.
- Competitors are increasing day by day and increasing health consciousness.

3. Supply Chain Management:

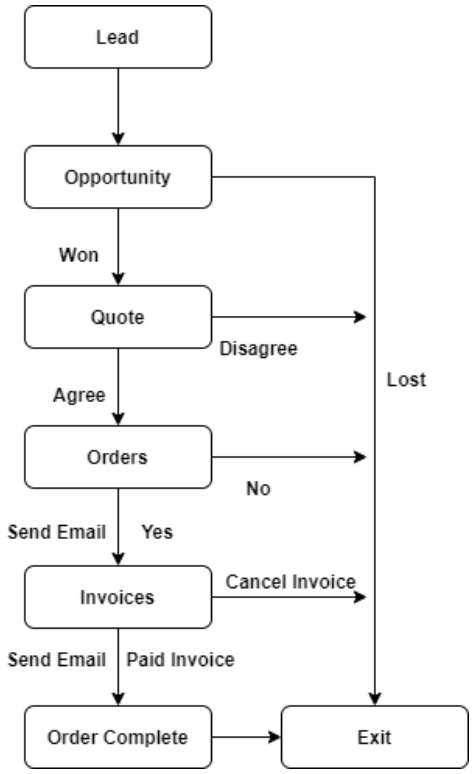
Supply chain management is the system that controls course of services and products. This includes creating goods from the raw material to supply them to end customers. The continues flow of the business which involves streamline supply of the product considering importance of the customers in this competitive market. Supply chain management has now reached way to above of just buying things and strategical design and to controlling complicated online relationship in order to deliver goods and services to the end customers. This is vast, various, new and exciting system for the management used by many organizations around the world.

Here in the Swiggy, when the end user orders any food online using mobile application, first the request goes to Swiggy, as per the customer's choice, they redirect this order to specified restaurant to prepare the food. To make the food, restaurants need raw material and to get, they again have to follow supply chain management. Once the food gets ready, a guy from Swiggy goes to pick up that

order to deliver at the specified address within 20 minutes from the time order picked up. This is very important and key factor for the customer satisfaction. Once food delivered, we take the feedback about the guy who delivered the food in order to improve ourselves. This is how supply chain management work for the Swiggy around the clock.

4. Customer Relationship Management:

Customer relationship management system it helps you to keep a track on sales leads, marketing strategies and the main thing is it will maintain and manage the customer relationships.



In today's market, the most often used is **CRM. CRM** is a business tool, usually a web application or software, it allows to organization to get focus on their customer and buyers, suppliers, service-based users, or anyone else does business with the organization.

For this organization, we used **Microsoft Dynamic 365**. It allows us to find future customers and keep an eye on existing ones, manage tasks, operation, and sales for corporate organizations.

Microsoft dynamic 365 get divided into two park:

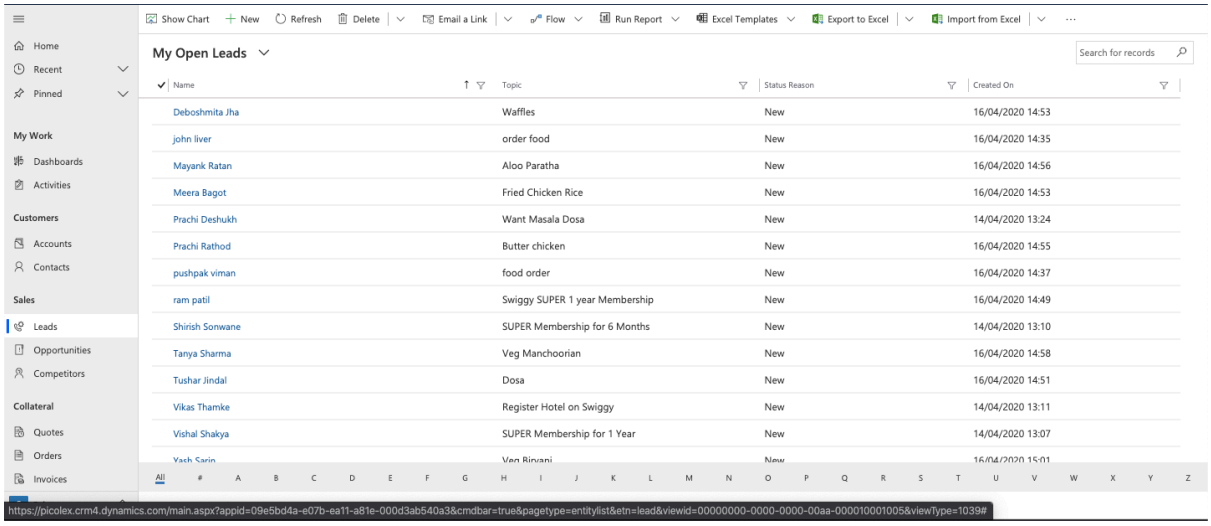
1)CRM- Sales Hub, Customer Service Hub, Field Service, Project Service and Automation

2)ERP- Finance & Operation, Business Central, Talent, Retail, Marketing.

Let's see the Microsoft Dynamic 365 CRM implementation of Swiggy with their customers.

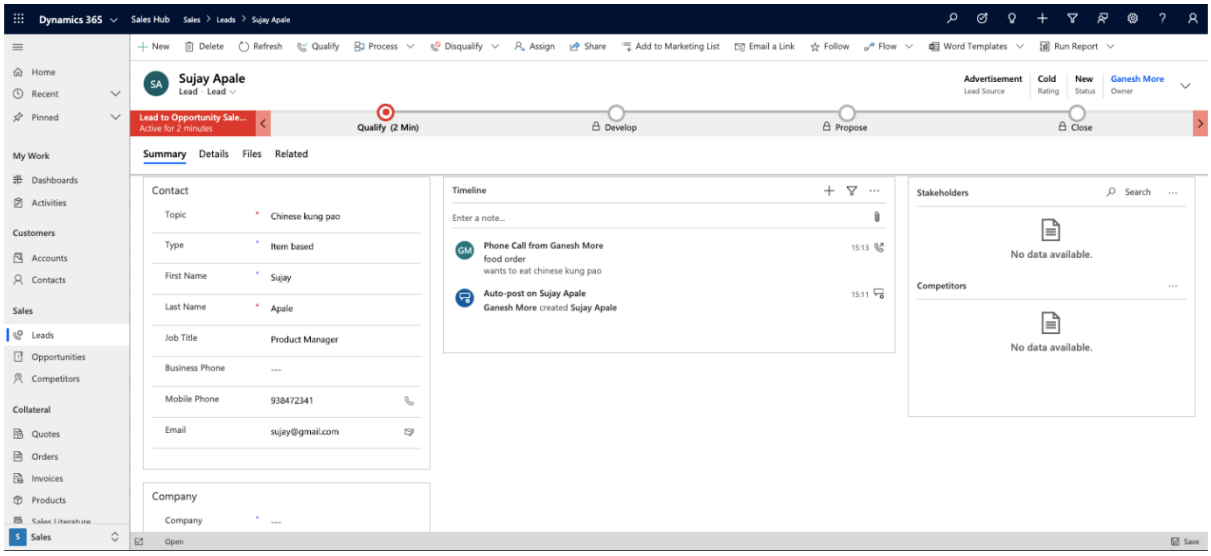
Step 1: Created lead using different sources: Swiggy has got leads from different media like marketing events, word of mouth, advertisement, meetings with stakeholders in that meet they tire to convert leads into customers, and pinch the data into **Dynamic CRM** as leads.

For example, in the below image, we can see we got 14 different leads for a variety of topics.

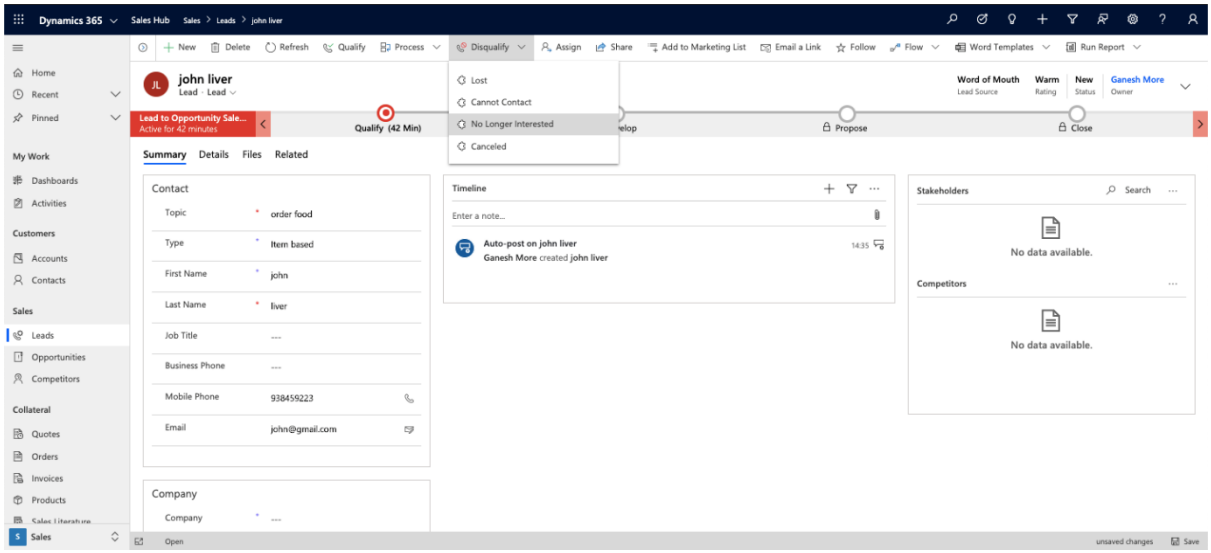


Step 2: Qualify a lead: the genuine customer always wants to look forward, when we confirm that this customer is interested then we can qualify the lead, and that lead converted into an opportunity, that means a customer could be interested in our service. Moreover, you can also see from where the comes i.e., the lead source.

Let us take an example of a food order.

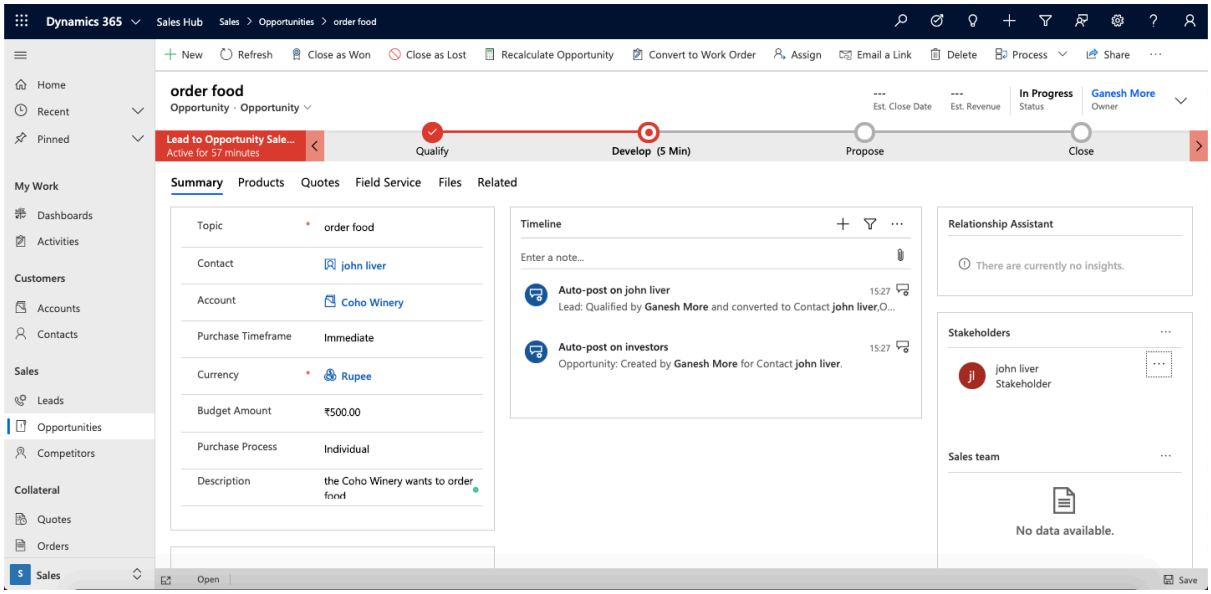


Step 3: Disqualify a lead: we found the customer is not genuine due to some reasons, then we can disqualify the lead. If lead disqualifies, there are pre-defined reasons in CRM so you can select one of them. You can select the reason which relates to the disqualify reason. Like Canceled, No longer interested, cannot contact, etc.



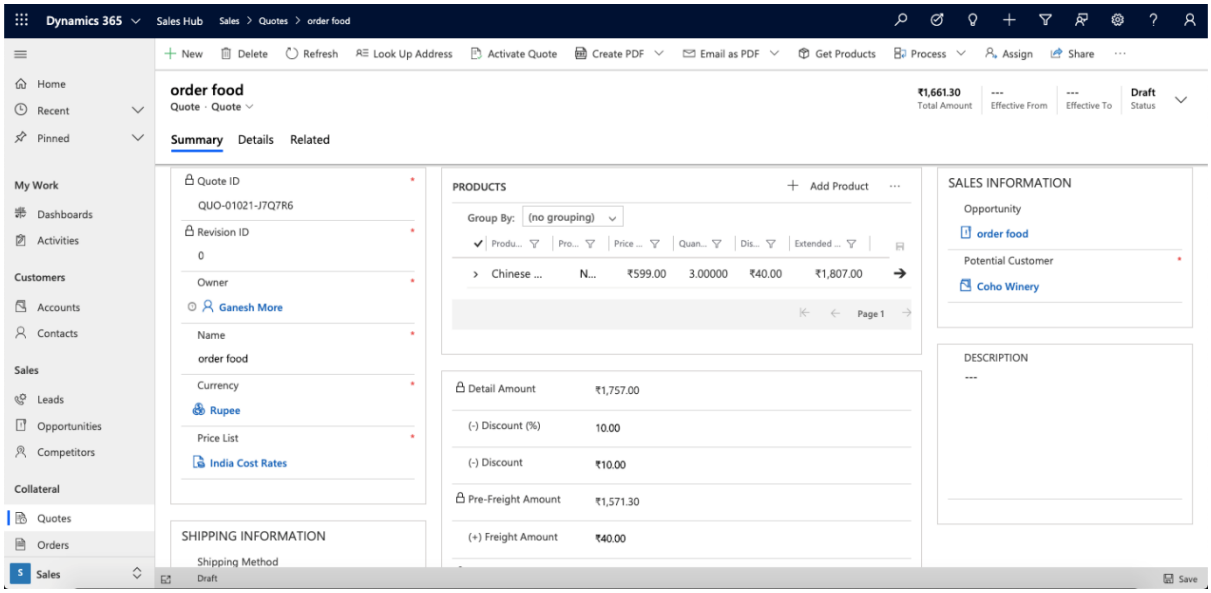
Note: in **dynamic CRM**, there is an option if you disqualify the lead, but you found this lead is genuine, then we can reactive the lead. The reason for reactive the lead is customer shown the interest again into service or product.

Step 4: Opportunity: the lead converted into an opportunity, then you can put more information regarding the lead i.e., Purchase timeframe, the budget amount, purchase process. When you fill-up with all the details, then we can create an order of this opportunity by clicking on" **Close as won**."



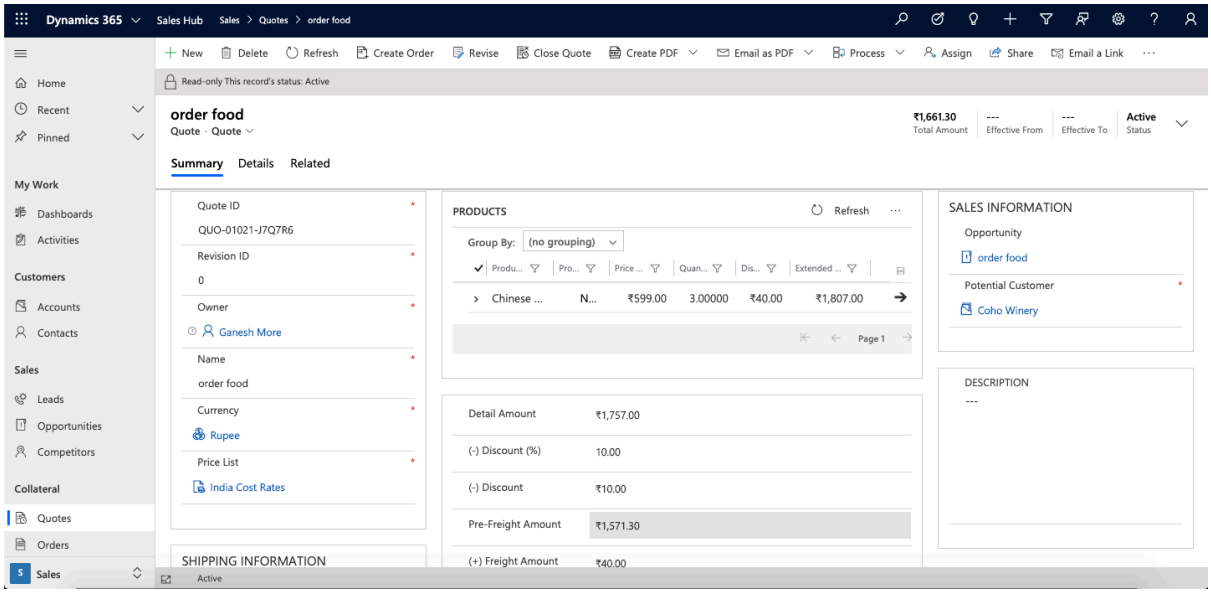
Note: you can also close this opportunity by clicking on **Close as Lost**.

Step 5: Create Quotes: You can create order when we found the customer showing string interest into the deal, and a customer asks for quotes, then you can create quotes then send them via email with the best price Swiggy can offer.

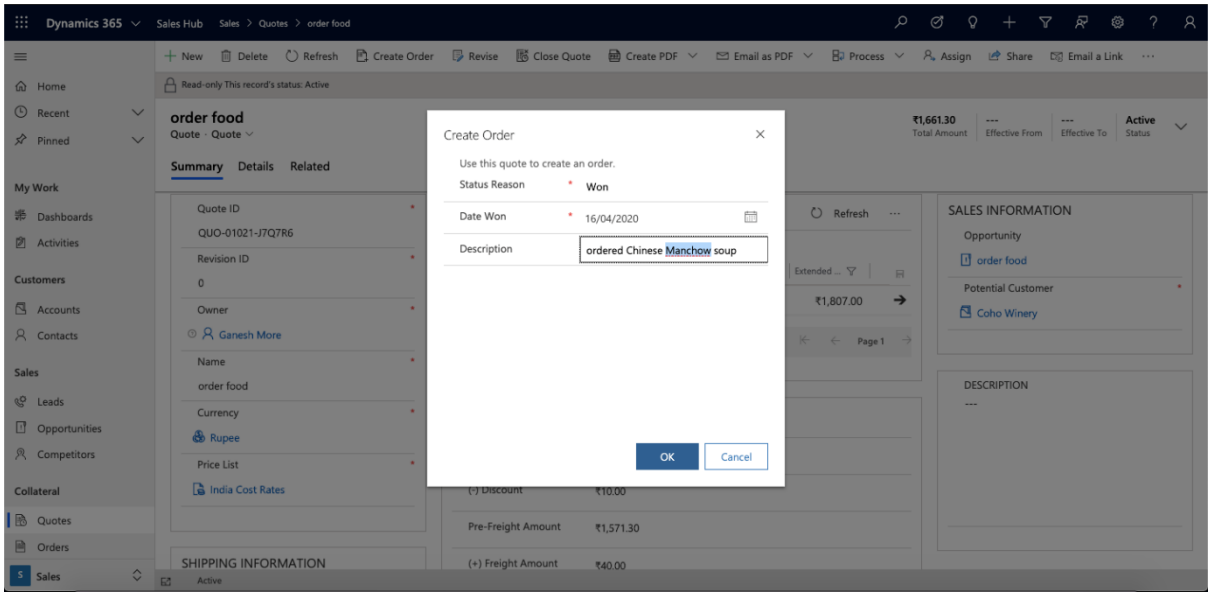


Note: for generating quotes, you have to click on the Active quote so you can become active in this quote for the product. After activating the quote, you can create an order and send them.

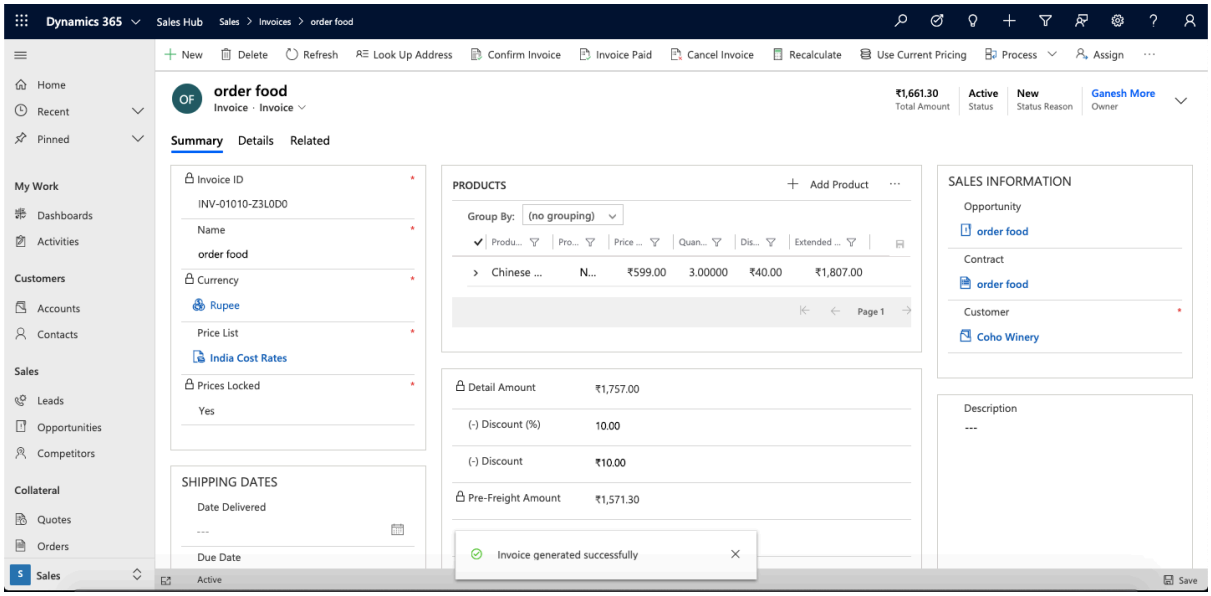
Step 6: Create order: After Activate quote, send it to the customer. If a customer agrees on that quote, then you can enable us to create order. For creating order, click on "**Create Order**."



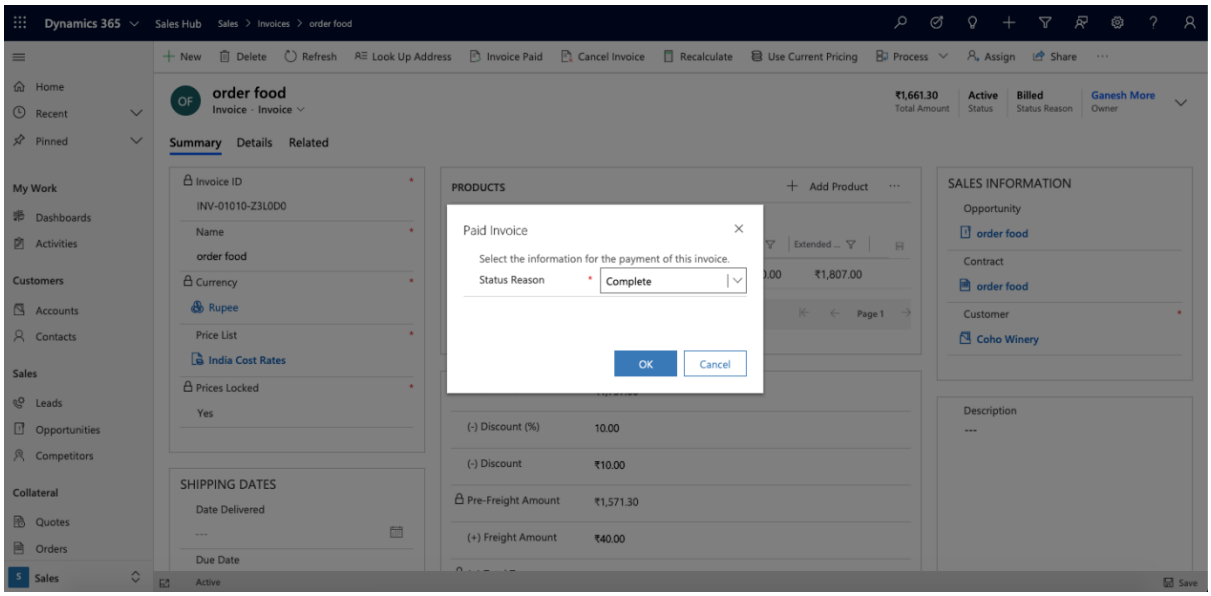
Step 7: Order Create successfully. You can change the status that you successfully create the order.



Step 8: Create an invoice: Now, we successfully created an order for food. Swiggy can send the bill their customer Coho Winery by sending an invoice.

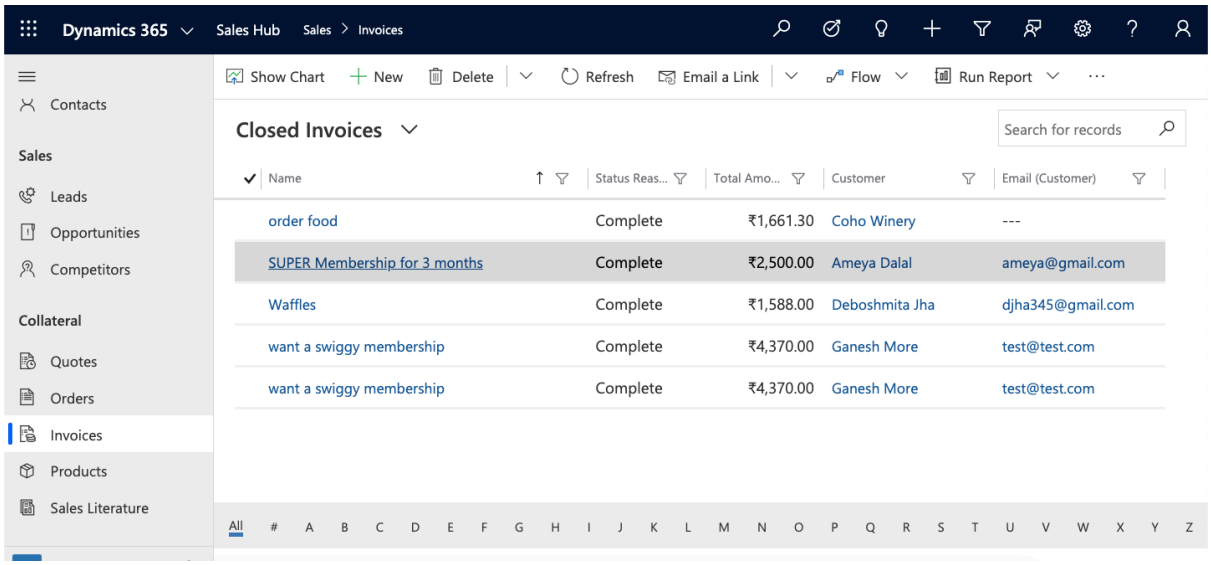


Step 9: Paid Invoice: after creating invoice customer will look the Invoice, and then the customer paid the amount.

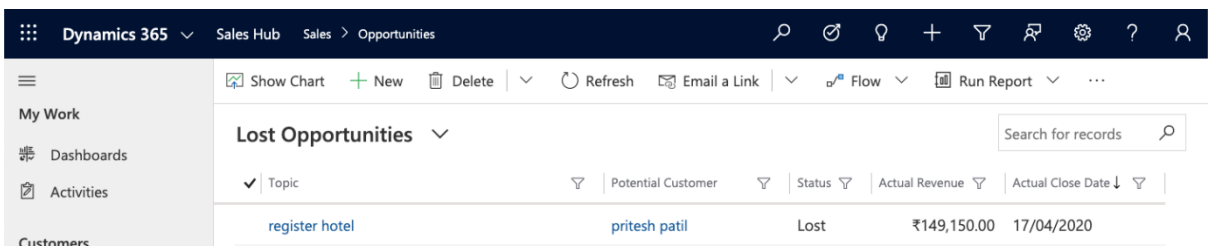


Step 10: Check Data: in Dynamic CRM, there is no specific feature to verify and check, but you can do this using all the open opportunity, closed opportunity, quotes, order according to the CRM users.

4.1 Close opportunities



4.2 **Lost opportunity: Lost opportunity** is that opportunity that we earlier close as lost.



5. Power BI Dashboards

5.1 What is Power BI?

The power BI is an expert analytics solution that helps you to visualize your statistics and share visions across your group, or implant them in your app and website. Attach to 100s of data bases then carry your statistics to lifecycle with live dashboards or reports.

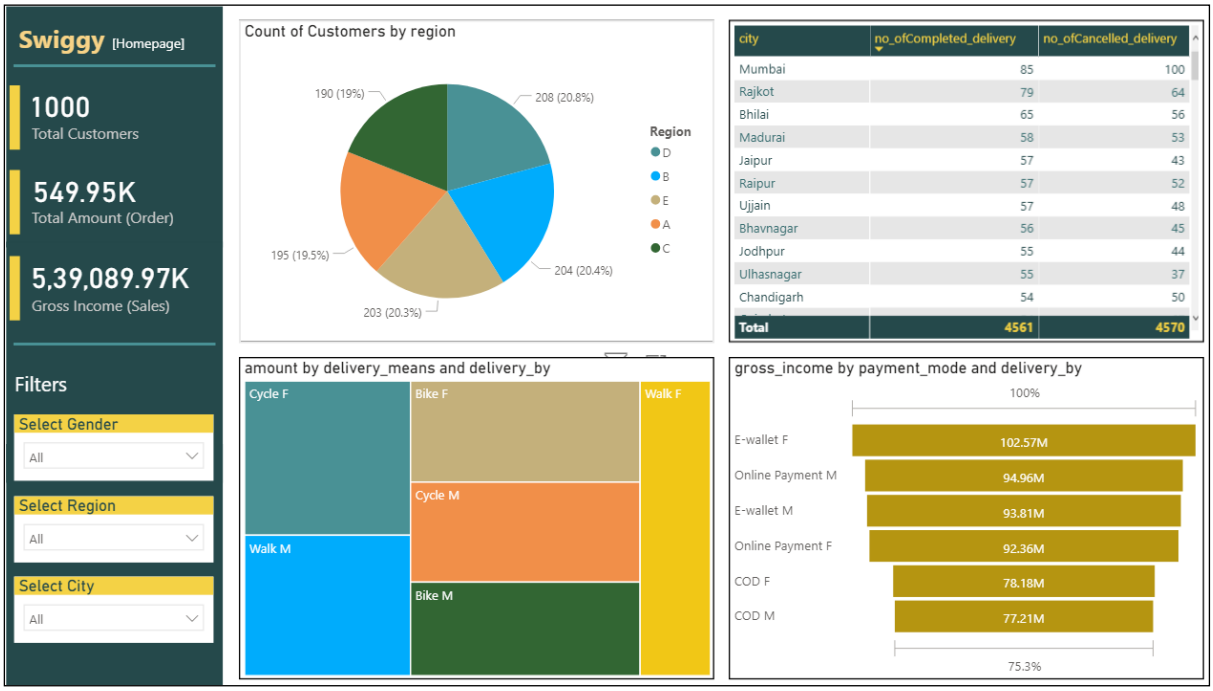
5.2 Power BI Dashboard:

The Power BI dashboard is a solo sheet, in other words a picture, that uses imaginings to express a story. Because of this is limited to solo page, a well-calculated dashboard covers only the greatest-significant basics of the section.

5.3 Power BI Report:

The Power BI report is nonentity but a multi-viewpoint opinion into a statistic set with visualizations which signify diverse answers then visions after that statistics set. A report might be a solo picturing or pages full of picturing.

5.4 First Dashboard (Homepage):



5.4.1 Left Sidebar:

The left sidebar shows the name of the firm along with the dashboard page name, for example, the Homepage. It also contains total customers of the company, the total amount generated by order and gross income by sales. In the second part of the sidebar, there are several filters, for example, by gender, by region and by city, by which you can filter data and represents the graphs respectively.

(Left to Right):

- **First Graph:**

  The first graph is a Pie chart, which shows the number of customers by region. We can see that the highest number of customers is from the D region and the minimum are from the C region.

- **Second Graph:**

  The second graph is a matrix, which represents the total number of completed delivery and the total number of cancelled deliveries with respect to the city. Currently, Mumbai has the maximum number of completed deliveries and the maximum number of cancelled deliveries.

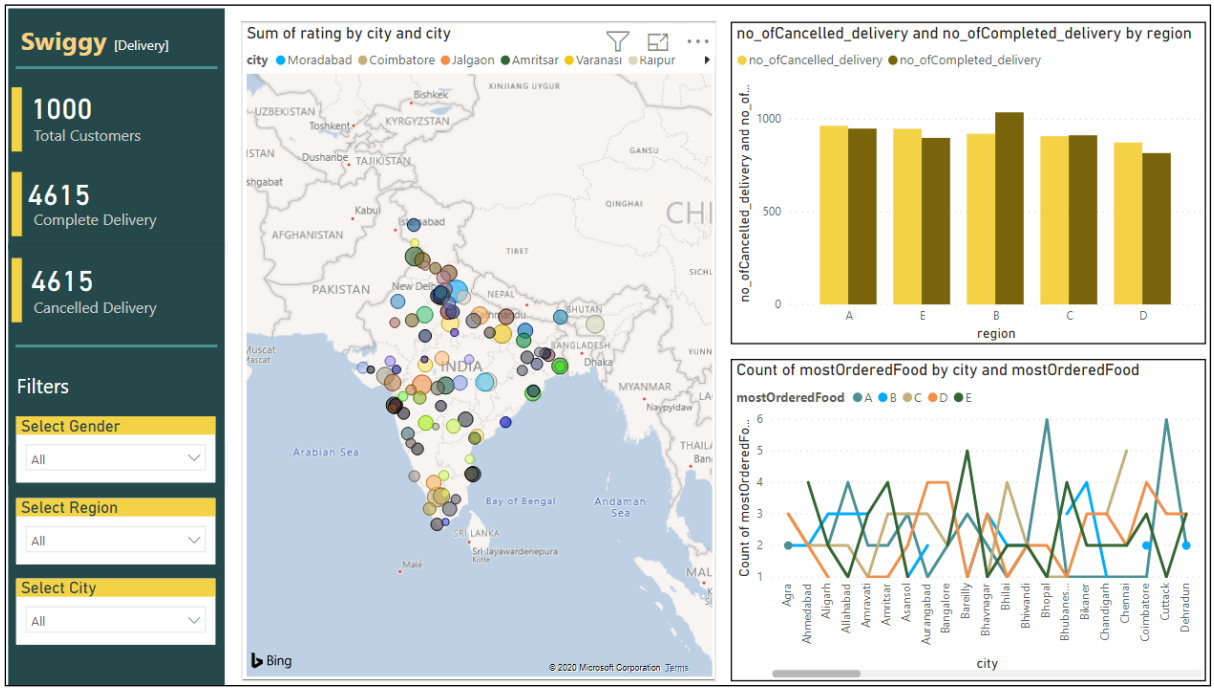
- **Third Graph:**

- The next graph is treemap, which shows the total amount generated by delivery means and delivery by. We can clearly see that the maximum amount is generated by cycles that are operated by females.

- **Fourth Graph:**

  The fourth and final graph is a funnel, which represents the gross income by payment modes and delivery by. There are three types of payment methods, E-wallet, Online payment, and COD. By graph, females are the most responsible for hight gross income which is paid by E-wallet.

5.5 Second Dashboard (Delivery):



5.5.1 Left Sidebar:

The left sidebar is almost same as homepage sidebar. There are few changes which are total number of delivery and total cancelled delivery. The filters are same as mentioned in homepage sidebar.

(Left to Right):

- **First Graph:**

  The first graph is a world map, which is uniquely used here to shows total ratings with respect to cities. By hover on each city we can easily see the rating of the particular city. Company can focus on future plans according to city ratings.

- **Second Graph:**

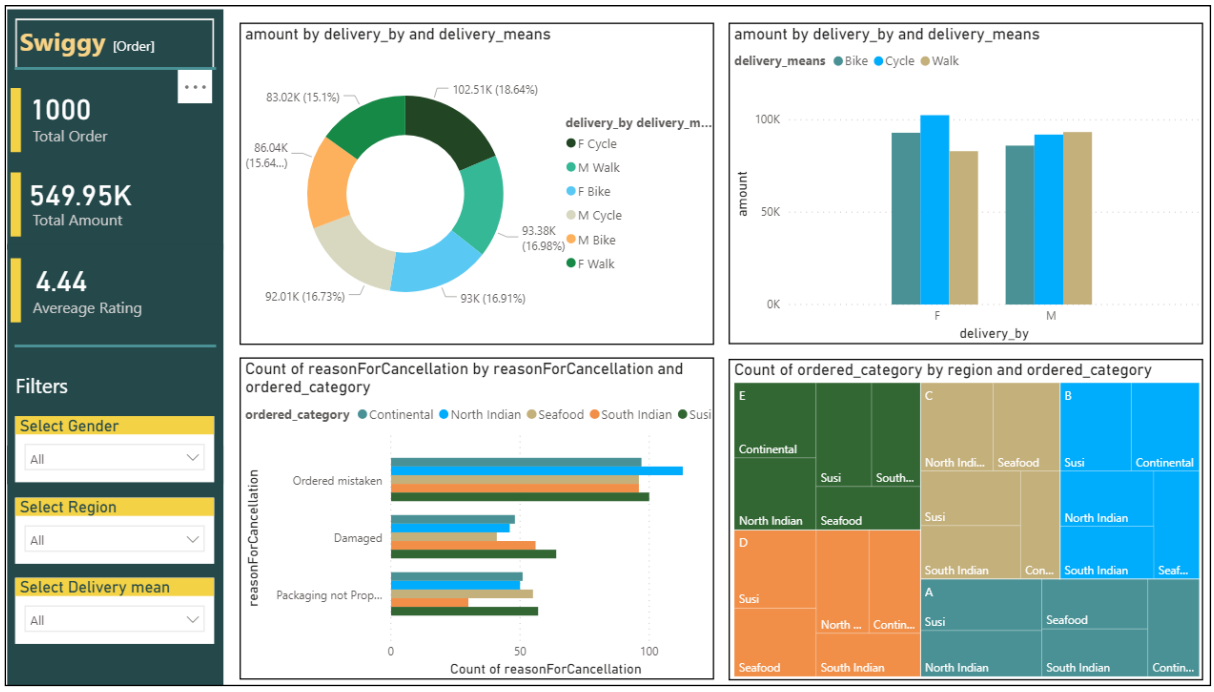
  The second graph is a clustered column chart, which represents the total number of completed delivery and the total number of cancelled deliveries with respect to the regions. Currently, B

region has the maximum number of completed deliveries and the D region has maximum number of cancelled deliveries.

- **Third Graph:**

The next and final graph of this dashboard is line chart, which shows the cities with most food ordered. The line charts compare and count total order by city.

5.6 Third Dashboard (Order):



5.6.1 Left Sidebar:

The left sidebar also contains total order of the company, the total amount generated by order and average rating on orders. In the second part of the sidebar, there are several filters, for example, by gender, by region and by delivery means, by which you can filter data and represents the graphs respectively.

(Left to Right):

- **First Graph:**

The first graph is a Donut chart, which shows the total amount generated by orders by different genders and different delivery means.

- **Second Graph:**

  The second graph is a clustered column chart, which represents the total amount, which is generated by male's vs females and by bike, cycle and walk. We can see the highest amount are generated by females using cycle. However, females and cycle combination are best for company so far.

- **Third Graph:**

  The third graph is a clustered bar chart, which shows the total counts of reason for cancellation by region. For example, there are three main reasons, first is ordered mistaken, then other is damages and last is packaging not proper. In this comparison we can see that the most orders are cancelled due to ordered mistaken and least is packaging not proper.

- **Fourth Graph:**

  The last graph is Treemap, which is represents order categories by region. There are total five categories, Continental, Susi, North Indian, Seafood, South Indian.

5.7 Fourth Dashboard (Sales):

5.7.1 Left Sidebar:

The left sidebar contains total customers of the company, the gross amount generated by sales and gross margin. In the second part of the sidebar, there are several filters, for example, by gender, by payment methods and by city, by which you can filter data and represents the graphs respectively.

(Left to Right):

- **First Graph:**

  The first graph is a Funnel, which shows gross income by payment methods. Online payments are most used by customers while buying.

- **Second Graph:**

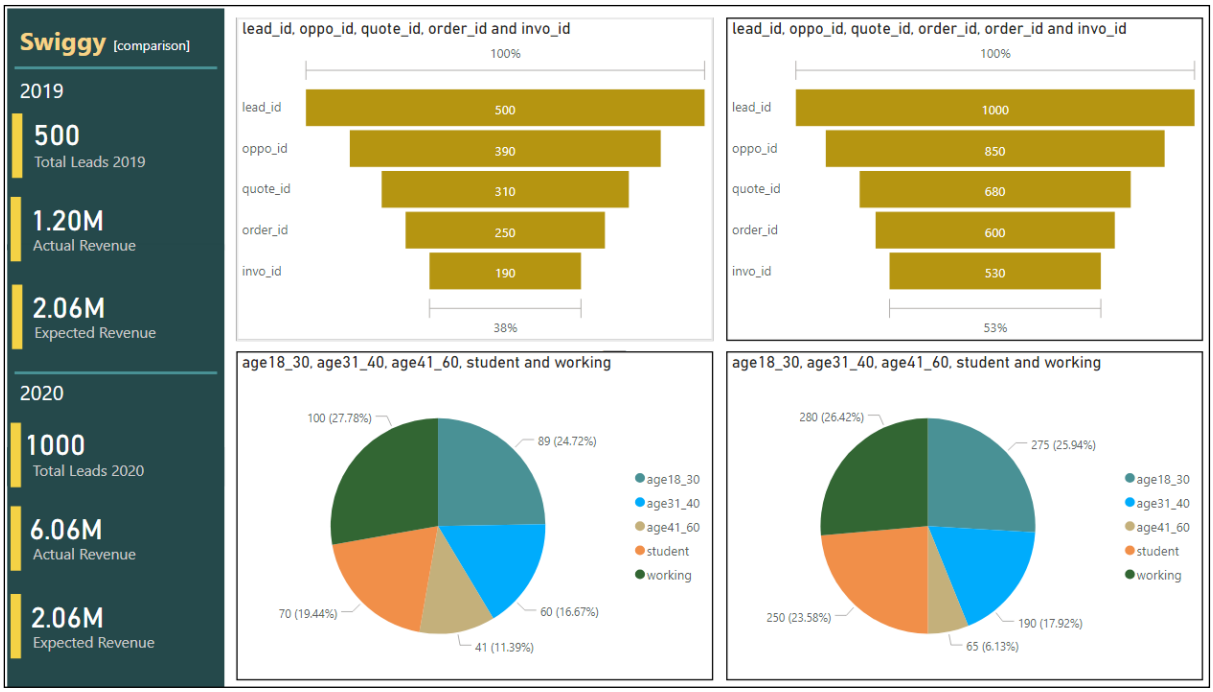
  The second graph is a Pie chart, which represents the gross income generated by males and females. We can see that its almost same if we compare both genders.

- **Third Graph:**

  The third graph is a clustered column chart, which shows the gross income by different-different regions. There are total five regions, and D region has most gross income as compare to others.

- **Fourth Graph:**The fourth graph is Line chart, which represents gross income by different cities. From line chart, we can see that Mumbai has most gross income and got first position in all major cities.

5.8 Fifth Dashboard (Comparison):



5.8.1 Left Sidebar:

The left sidebar contains total leads, actual revenue, expected revenue in 2019 and total leads, actual revenue, expected revenue in 2020.

(Left to Right):

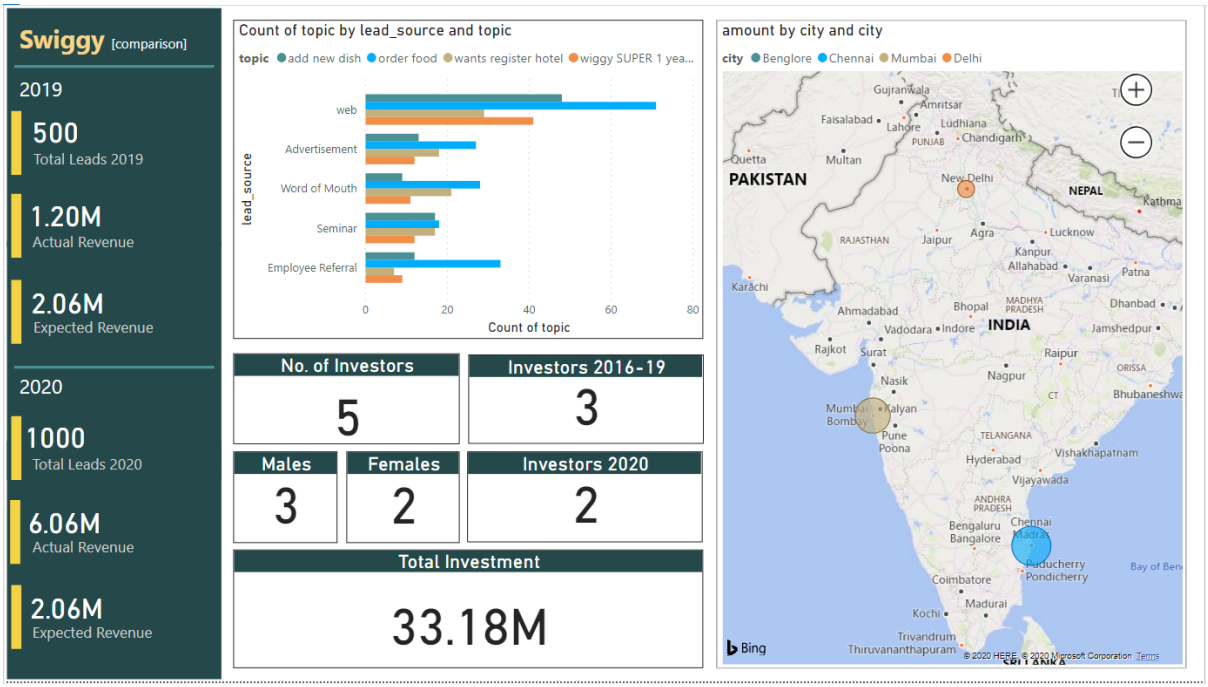
- **First and Second Graph:**

  The both graphs are Funnel, which shows the comparison between data from 2019 and 2020. In first graph, leads were 500 and successful conversion are 190. However, in 2020 the leads are almost double as compare to last year and successful conversion are 530. It is clearly shows that there are increment in all processes from leads, opportunities, quotation, order to invoice.

- **Third and Fourth Graph:**

  The third and fourth graph are a Pie chart, which represents the targeted clients with their ages and professions, for example students and working. In 2019, company was unable to fulfil its requirements and have less clients. But in 2020, in every sector there is an increment.

5.9 Sixth Dashboard (Comparison):



5.9.1 Left Sidebar:

The left sidebar same as fifth dashboard sidebar.

(Left to Right):

- **First Graph:**

  The first graph are Clustered bar charts, which shows the result of 2020. In first graph, it is showing total number of topics by lead sources. There are four topics, add new dish, order food, wants register hotel, one-year membership. And there are total six lead sources, web, Ads, seminar, Digital ads, employee referrals, word of mouth.

- **Second Cards:**

  The next section contains some cards with related to investment amount and investors details. The first cards represent the total investment by investors in 2020. In next card, we can show the total number of investors in 2016 – 19.As the grow of the business we crack the deals with 2 more investors in 2020. There are 3 males and 2 females' investor, which are shown in next two cards.In the next card the total investment invested by investors.

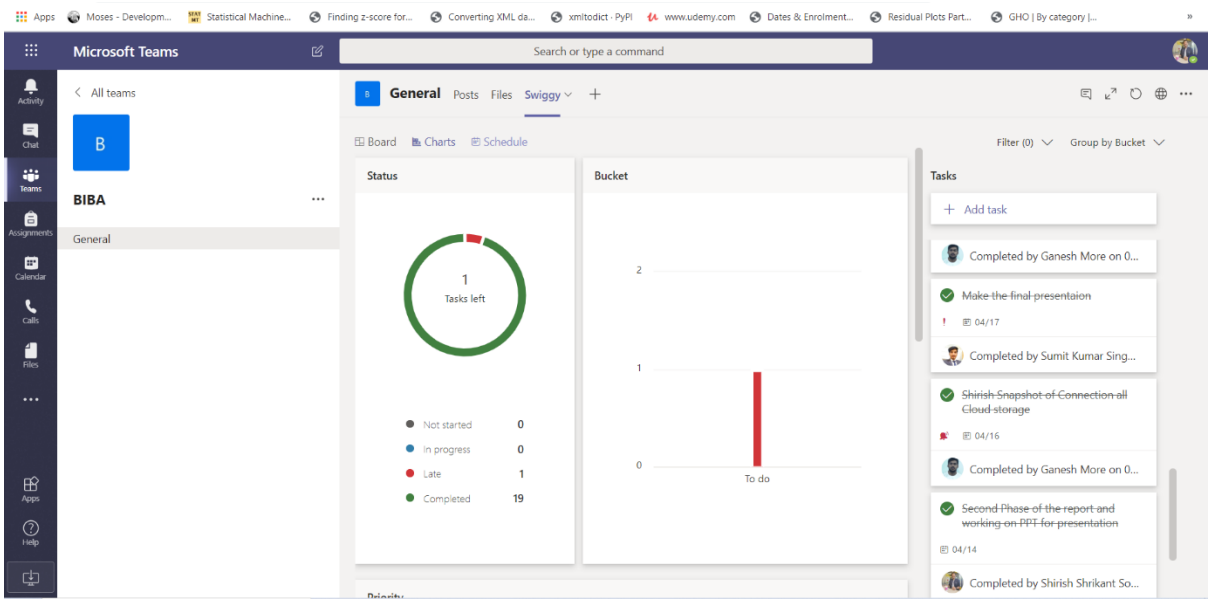
- **Third Graph:**

  The third graph is a world map, which shows the amounts or investments generated by city. From map we can see that from Chennai and Mumbai city we have most investors.

6. Teamwork and Discussion:

We were a team of 4 students. Organization 'Swiggy' on which we worked, had decided by four of us collectively. Data Collection, setting up Postgres on AWS, and their connection to Power BI, Entity Relationship diagram, Balanced Scorecard, Dynamics CRM, Dashboards in Power BI, and report and presentation were the most critical aspects of the project. We collectively contributed equally to the points mentioned above and completed the project.

We have used the Agile methodology while working on this project. We used to have called every day in the morning to discuss the points on which we were going to work. If anyone faces any issue during working on the task, we used to help that member to sort that out. Overall, the team has an equal share in taking this project to end. Below is the snap of Microsoft teams we show tasks assigned and completed.



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