Zomato Bangalore Restaurant Analysis Using Power BI:

"Zomato's Bangalore Restaurant Finder: Your Ultimate Food Guide"

Zomato is an online food delivery and restaurant discovery platform that provides users with information about restaurants, menus, and user reviews. With the help of Power BI, we can analyze the data on Zomato's Bangalore restaurants and create a report to visualize the findings.

The Zomato report will begin with an overview of the data, highlighting the number of restaurants, top restaurant chains, top cuisines, and top locations available on the platform. We will then dive into the analysis by creating visualizations on the top-rated restaurants, cuisine popularity, and average cost for two people.

Furthermore, the last dashboard on the report is based on an interactive restaurant finder that allows users to search for restaurants based on location, cuisine, meal type, and dishes liked. This feature will enable users to make informed decisions on where to dine, based on factors such as location, rating, and cuisine preference.

In conclusion, the Power BI report on Zomato's restaurant data analysis and restaurant finder feature will help users to make informed decisions about dining out. It will provide insights into the most popular cuisines and restaurants in each location, as well as offering an interactive tool to find the best restaurant options.

In this article, I will explain some useful insights that I was able to garner by analyzing a dataset sourced from Kaggle.com using Power BI Modeling, Data Transformation and Reporting Capabilities

The dataset is about Zomato Bangalore Restaurants. The objective of analyzing the Zomato dataset is to get a fair idea of the current situation of the foodservice industry in Bangalore. We also would want to identify the various factors affecting different types of restaurants in different places, the popular cuisines, meal types and most liked dishes. Bengaluru is a food hub and is a place where you can enjoy almost every Indian cuisine and plenty of international cuisines like American, Continental, Mexican, Middle - Eastern, Chinese, Japanese, Korean, Thai, Vietnamese and many such wonderful cuisines from all around the world.

Data Resources / References:

https://www.kaggle.com/datasets/himanshupoddar/zomato-bangalore-restaurants

https://www.analyticsvidhya.com/blog/2022/09/exploratory-data-analysis-of-zomato-bangalore-restaurants/

Images from Google and Pinterest

Data Cleaning and Transformation:

The data source was a CSV file consisting of a dataset with 17 columns. On Power BI Desktop we click on “Get Data” from the CSV file and proceed onto transforming/cleaning the data in the Query Editor. By default, the first row is promoted to headers and the column types are changed.

1. I removed the following columns since I would not be using them as a part of this analysis: reviews_list, menu_item, listed_in(city).
2. Cleaning was done in predominantly in Excel and small portion in Power BI (Power Query Editor). I removed unquantifiable values from the “rate” column that included “/5”, blank values, “-”, and “NEW”.
3. Ensure that the restaurant name column does not contain any special characters like / , /n, ~,` etc.,
   For restaurants with names like “Café” the “é” is observed to be replaced with special characters like “ƒ”,” Â”,”©”. I performed multiple replace operations on the column “name” to handle the same. Around 78 restaurants proper name were google searched and looked up on to the column.
4. Duplicates were checked for the entire dataset and if any were removed.
5. Data was trimmed and aligned properly.

Analysis and Modelling

Observations:

There are around 51k rows in the dataset initially.

Different addresses have the same restaurant names (restaurant chains).

The same address applies to multiple restaurants at the same location.

Each entry in the dataset is already at a location level i.e., a single location per restaurant name and address but if we analyze the columns like "rest_type", "dish_liked" and "cuisines", they have multiple entries concatenated in a single column. We would want to extract the individual values for these to perform analysis like the top cuisines, top dishes liked or restaurant types.

Multiple entries are present for a name-address combination differing in the column "listed_in(type)".

name	address	listed_in(type)
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Delivery
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Desserts
Cold Stone Creamery	120, Ground Floor, EPIP Zone, Near BMTC Bus Depot, Whitefield, Bang...	Delivery
Cold Stone Creamery	120, Ground Floor, EPIP Zone, Near BMTC Bus Depot, Whitefield, Bang...	Desserts
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Delivery
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Desserts
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Delivery
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Desserts
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Delivery
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Desserts
Cold Stone Creamery	3, Third Floor, Vega City Mall, Bannerghatta Road, Bangalore	Delivery
Cold Stone Creamery	Brigade Gateway, 2nd Level, 26/1 Dr Rajkumar Road, Malleshwaram, ...	Delivery
Cold Stone Creamery	Brigade Gateway, 2nd Level, 26/1 Dr Rajkumar Road, Malleshwaram, ...	Desserts
Cold Stone Creamery	120, Ground Floor, EPIP Zone, Near BMTC Bus Depot, Whitefield, Bang...	Delivery
Cold Stone Creamery	Brigade Gateway, 2nd Level, 26/1 Dr Rajkumar Road, Malleshwaram, ...	Delivery
Cold Stone Creamery	Brigade Gateway, 2nd Level, 26/1 Dr Rajkumar Road, Malleshwaram, ...	Desserts
Cold Stone Creamery	120, Ground Floor, EPIP Zone, Near BMTC Bus Depot, Whitefield, Bang...	Delivery
Cold Stone Creamery	120, Ground Floor, EPIP Zone, Near BMTC Bus Depot, Whitefield, Bang...	Desserts

6. Even for the same "listed_in(type)" values for a name-address combination, we notice multiple rows for different vote values or rate values. We also see an inconsistency between the values in the phone column concerning spaces between the numbers for the same combination of name-address-listed(type) and restaurant address.

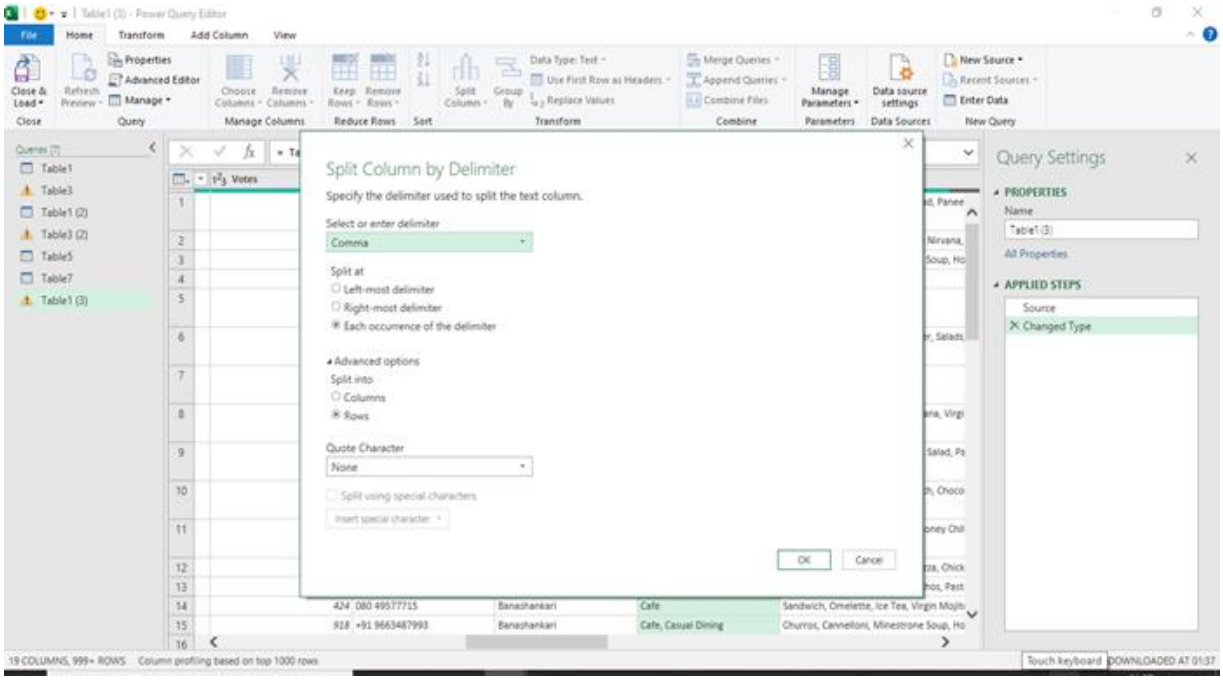
Data Wrangling, Manipulation and Transformation

Part 1:

1. It would not be correct to take the total count of "names" to count the number of individual restaurants or the count of restaurants falling under a restaurant chain. We can create a new custom column called "Restaurant Address" which is a concatenation of the fields "name" and "address" to do uniquely identify a restaurant at a location.
2. I also uppercased and trimmed the "restaurant name" and "restaurant address" columns for consistency and for easy reference.

Part2:

1. We need to extract the unique values from the columns rest_type, cuisines, and dishes_liked.
2. Select all the columns in Excel, go to Data and select "Table Range" to go to the power query editor.
3. Right-click on the rest_type column and click on "Split Column by Delimiter". Make the selections as below by selecting a comma as the delimiter and split the data into rows.

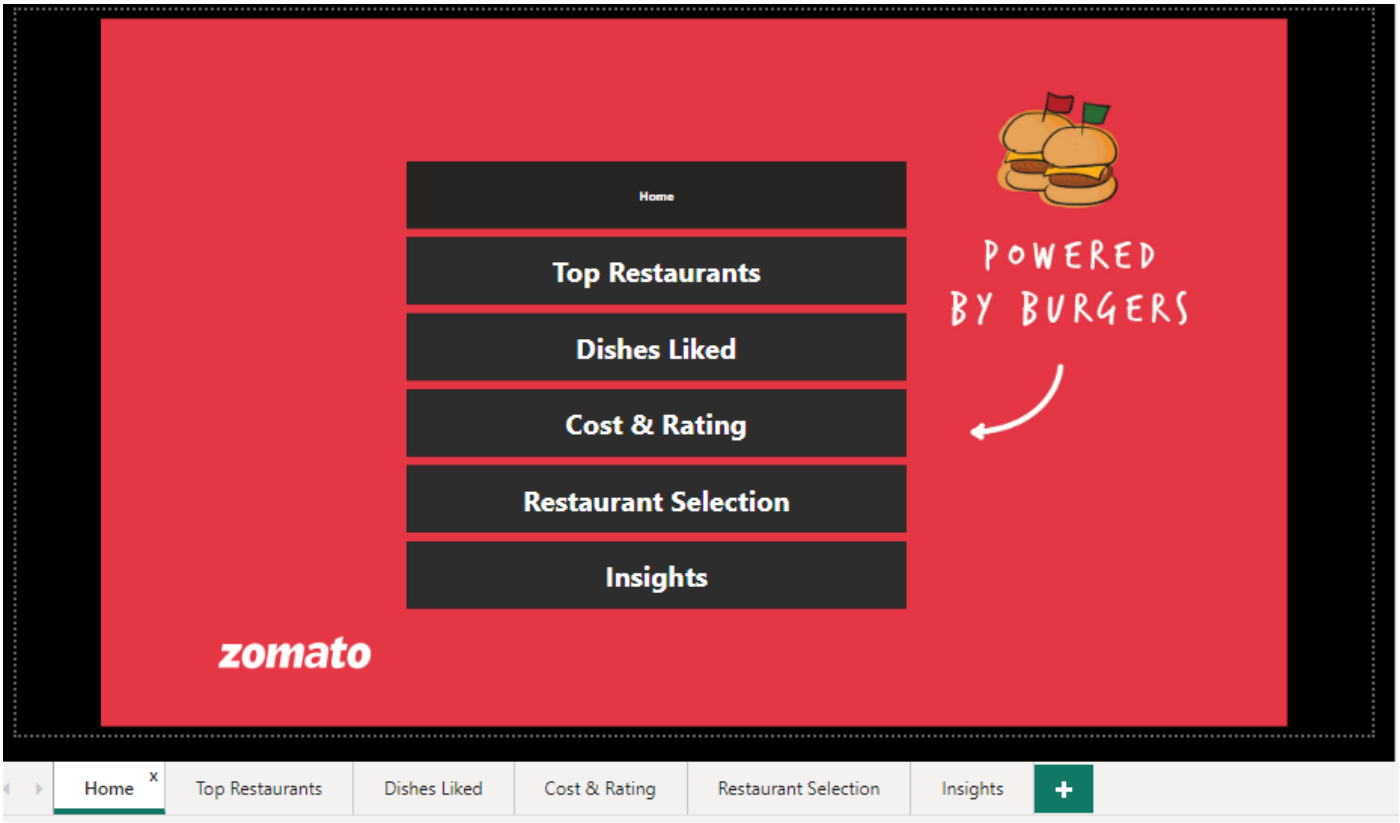


4. Repeat the same process for columns, “dish_liked” and “cuisines”.
   Select the complete data set and trim before starting dashboarding and analysis.

The dataset is now clean and ready for analysis and dashboarding. I have listed the dashboards created for the analysis below and insights found from them.

1. **Home Page.**
2. **Top Restaurants** analysis where you have slicers for meal types and visualizations on top 10 restaurant chains, top locations by avg rating, top 10 cuisines, restaurant count by location, Distribution by meal type, a simple bar chart with percentages showing online orders and table booking options.
3. **Dishes Liked** analysis where you have slicers for meal types and visualizations for top 10 locations and dishes liked.
4. **Cost & Rating** analysis where you have slicers for meal types and visualizations for Distribution Cost for 2 People, Number of Restaurants by rating distribution, Rating Distribution by Table Booking and Online Orders.
5. **Restaurant selection** page has options for you to select your favourite restaurants from the choices you give in the options mentioned. You have slicers for meal types and visualizations for Table, Slicers for Location, Cuisines, Meal Type and Dish Liked, Slicers for Table Booking and Online Order, Slicer for Cost for 2 People, and Cards for Avg Cost for 2 People, Average Rating and Total Votes.

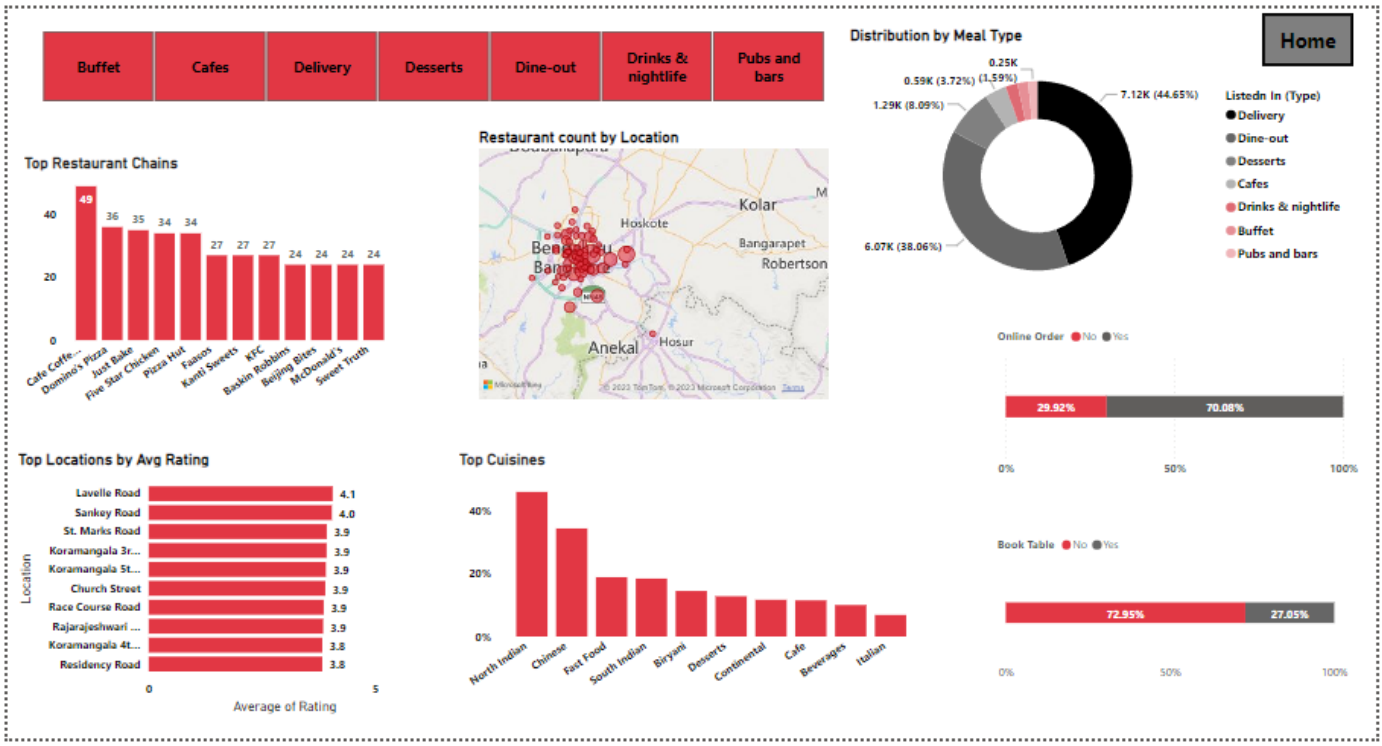
Home Page



Insights from the 1st report: (Top Restaurants)

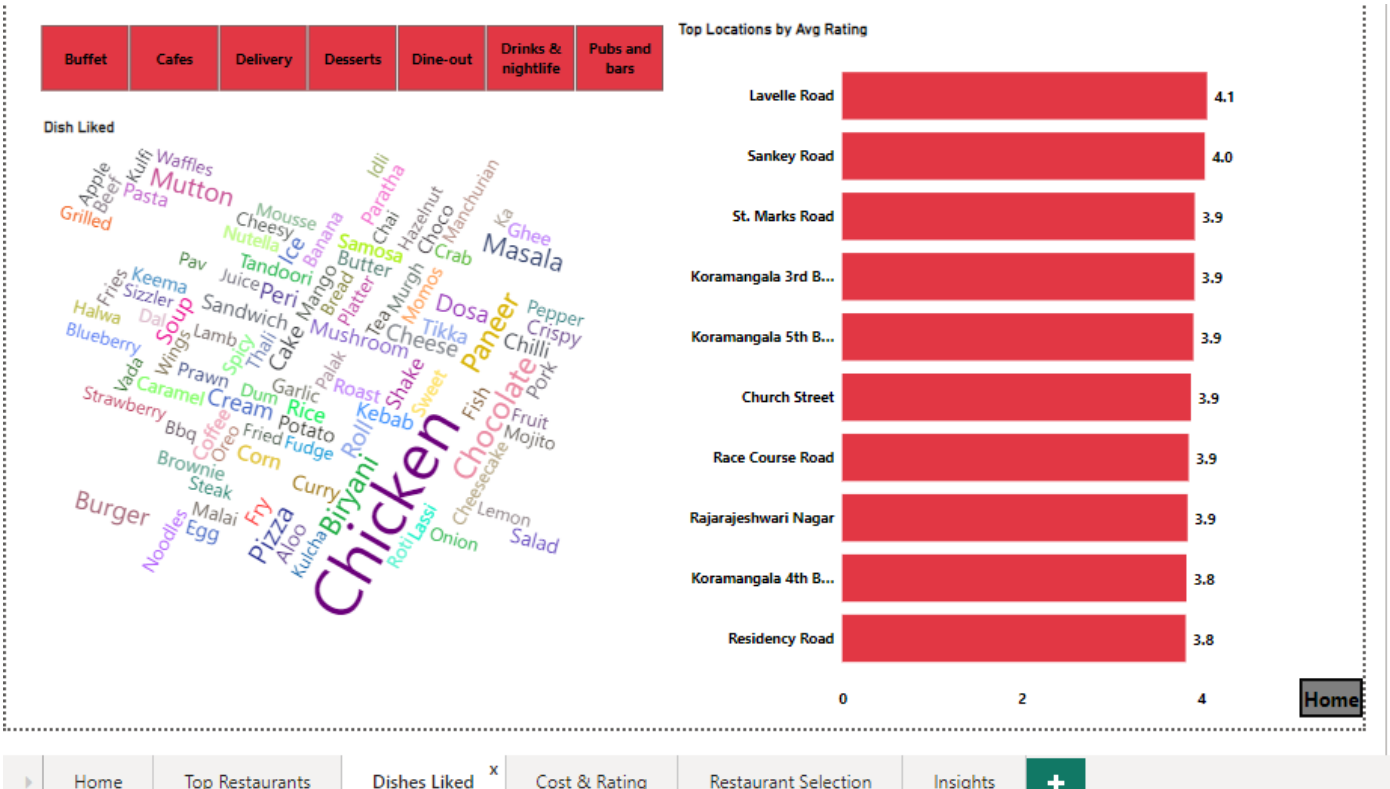
1. CCD, Domino's, Just Bake, Five Star Chicken & Pizza Hut are the top 5 restaurant chains with maximum restaurants.
2. The most available cuisine is North Indian followed by Chinese, Fast-food and South Indian.
3. A huge percentage of restaurants offer online orders but very few offer table bookings.
4. Maximum no of restaurants (44.65 %) falls under the Meal Type Delivery and 38.06% restaurants fall under Dine-Out.
5. The number of restaurants is dense towards central Bangalore. You can use the map visualization provide to zoom in and zoom out to get a much clearer idea about the location and number of restaurants available at that particular location.

NOTE: All the visualizations on the report are interactive (Cross Filtering is applied to every visualization applicable) and can be used to filter the other and gain specific insights and valuable information.



Insights from the 2nd report: (Dishes Liked)

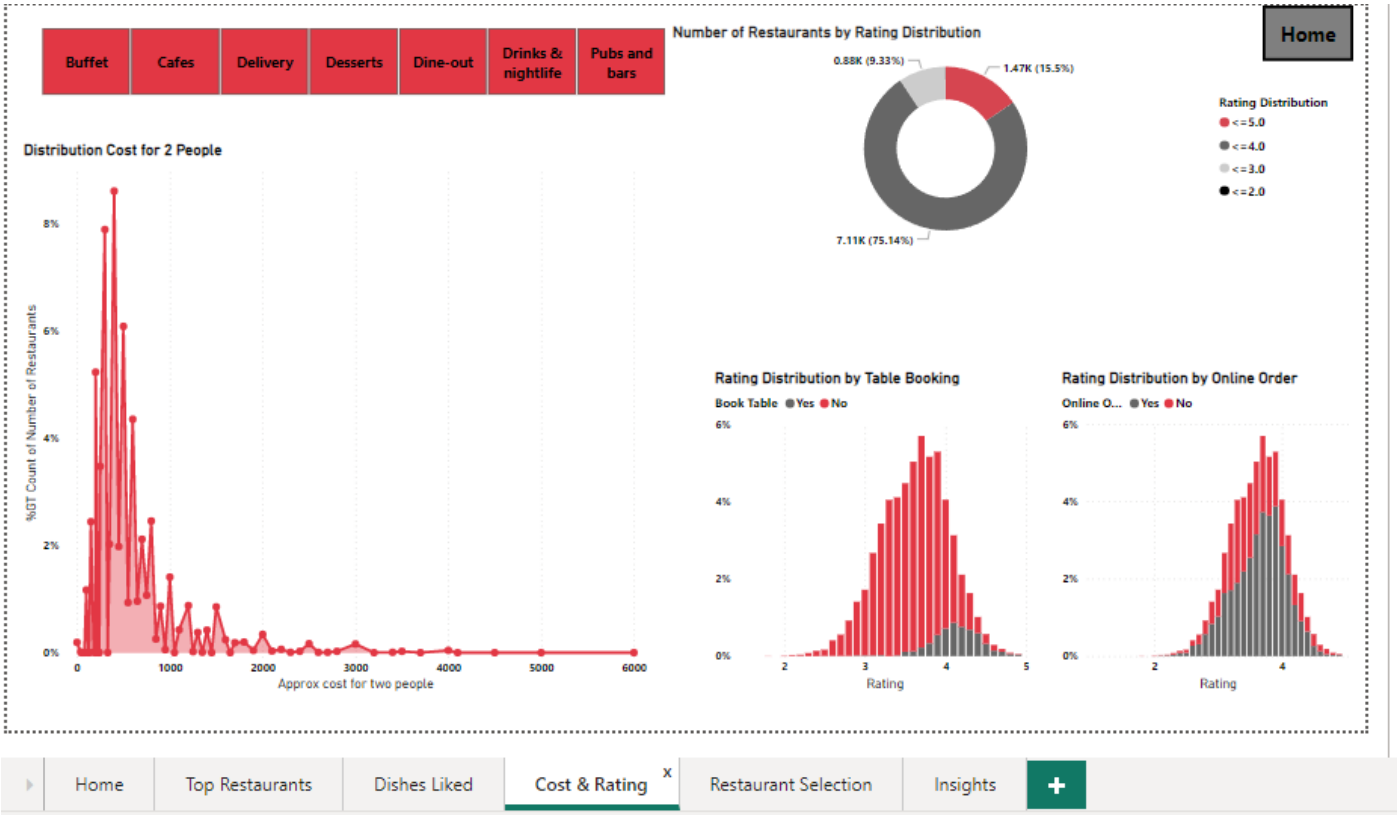
1. Chicken, Burger, Chocolate, Peri-Peri, Sandwich, and Pizza are among the most popular dishes for Meal Type Cafes
2. Lavelle Road, Sankey Road, St. Marks Road, Koramangala 3rd Block, Koramangala 5th block are the top 5 locations and have the highest average rating of restaurants overall.
3. The two visualizations can be filtered down by selecting a Meal Type from the slicer available.



Insights from 3rd report: (Cost & Rating)

1. Most of the restaurants serve and deliver food for under Rs 1000 for 2 People and good number of restaurants serve wide variety of dishes in the price range of INR 250 to INR 500.
2. Most of the restaurants fall under the ratings 3 to 4.
3. Most Restaurants can maintain higher ratings even without offering Table Bookings.

NOTE: All the visualizations on the report are interactive (Cross Filtering is applied to every visualization applicable) and can be used to filter the other and gain specific insights and valuable information.



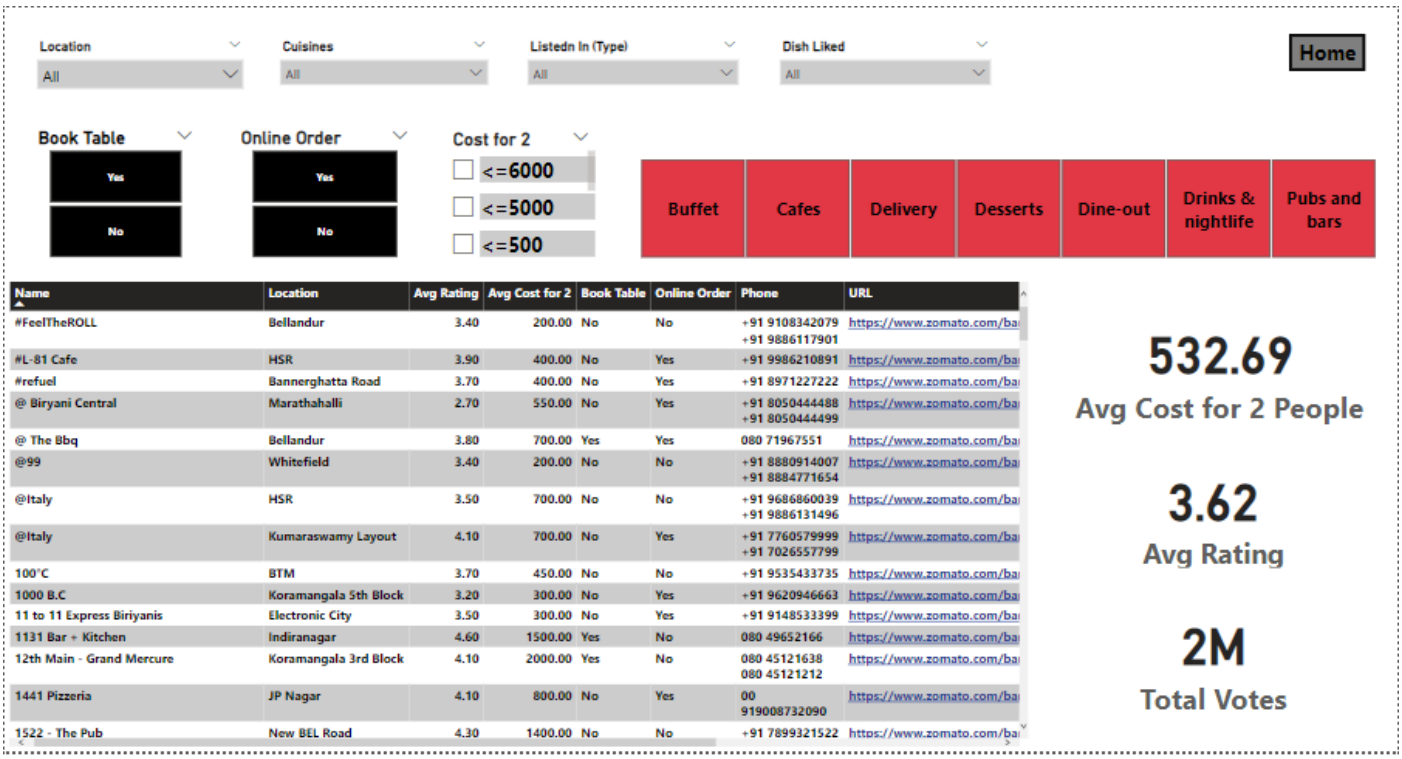
Insights from the 4th report: (Restaurant Selection)

This report offers to list down restaurants along with some useful information about them based on user inputs for location, cuisines, listed In (Type) (Meal Type) and Dish liked.

The results can be further filtered based on the availability of Table Booking, Online orders and Price Range (Cost for 2 People).

There is a summary table that displays the useful details such as restaurant name, Location, Avg Rating, Avg Cost for 2, Book Table, Online Order, Phone and URL (Restaurant details listed in Zomato)

There are also 3 Cards that present useful information like Avg cost for 2 People, Avg Rating and Total Votes based on previous selection by user. Cross filtering is used in the visualizations and change dynamically based on the selection of other visualizations in the same report / page.



Insights (5th Report)

Insights from the 1st report: (Top Restaurants Page)

1.CCD, Domino's, Just Bake, Five Star Chicken & Pizza Hut are the top 5 restaurant chains with maximum restaurants.
2.The most available cuisine is North Indian followed by Chinese, Fast-food and South Indian.
3.A huge percentage of restaurants offer online orders but very few offer table bookings.
4.Maximum no of restaurants (44.65 %) fall under the Meal Type Delivery and 38.06% restaurants fall under Dine-Out.
5.The number of restaurants is dense towards central Bangalore. You can use the map visualization provide to zoom in and zoom out to get a much clearer idea about the location and number of restaurants available at that particular location.

Insights from the 2nd report: (Dishes Liked)

1.Chicken, Burger, Chocolate, Peri-Peri, Sandwich and Pizza are among the most popular dishes for Meal Type Cafes
2.Lavelle Road, Sankey Road, St. Marks Road, Koramangala 3rd Block, Koramangala 5th block are the top 5 locations and have the highest average rating of restaurants overall.
3.The two visualizations can be filtered down by selecting a Meal Type from the slicer available.

Insights from 3rd report: (Cost & Rating Page)

1.Most of the restaurants serve food under Rs1000 for 2 People!
2.Most of the restaurants fall under the ratings 3–4!
3.Restaurants can maintain higher ratings even without offering Table Bookings.

Insights from the 4th report: (Restaurant Selection)

1.This report offers to list down restaurants along with some useful information about them based on user inputs for location, cuisines, listed In (Type) and Dish like.
2.The results can be further filtered based on the availability of Table Booking, Online orders and price range.
3.There is also 3 Cards that presents useful information like Avg cost for 2 People, Avg Rating and Total Votes based on previous selection by user. Cross filtering is used to the visualizations change dynamically based on the selection of other visualizations in the same report / page.

Recommendations:

1.If you're fan of North Indian Cuisine, then you must check out the following locations, Sadhadhiv Nagar, Sankey Road, Koramangala, Lavelle Road and Residency Road where there are plenty of restaurants (2879) listed as Dine-Out. 67% of the listed restaurants take online orders and 29% accept table booking.
2.If you're looking for cafe options, there are 126 restaurants that have a good star rating between 4.0 and 5.0 with a price range between INR 200 to INR 500

Thank You!