Zomato: Sales Data Analysis (2017-2020) using Tableau

Report Plan

Primary Objective
The primary goal is to analyze Zomato's sales and revenue trends over the period from 2017 to 2020. The focus will be on identifying key patterns and understanding the distribution of sales across various factors such as location, restaurant ratings, cuisine type, and other relevant criteria through visualizations and dashboards in Tableau.

Key Questions and KPI that will be Addressed

1. Overall Sales Performance:
    - Total revenue for the years 2017-2020, broken down by year.
    - Revenue trends (monthly/quarterly)
    - Identification of noticeable sales spikes or drops.
2. Sales by Location:
    - Identify regions with the highest sales.
    - Sales variations across different areas.
    - Identify regions with consistent growth or those needing attention.
3. Impact of Restaurant Ratings on Sales:
    - Correlation between higher ratings and higher sales.
    - Sales comparison of higher-rated vs. lower-rated restaurants.
4. Cuisine Sales Performance:
    - Identifying which cuisines generate the most revenue.
    - Regional variations in cuisine sales.
    - Comparison between local vs. international and veg vs. non-veg cuisines.
5. Impact of External Factors:
    - Effects of holidays, seasonal events on sales.

Visualizations to be utilized

1. Sales Over Time: Line or bar chart for revenue trends over time
2. Sales by Location: A geo Map highlighting high-performing regions.
3. Rating vs. Sales: Scatter plot and bar chart to explore rating impact on revenue.
4. Cuisine Performance: Bar chart or tree map for sales by cuisine.
5. Average Order Value: Line or bar chart to show revenue per order.
6. Top/Bottom Performers: Table or bar chart listing top and underperforming restaurants.

Dashboard and Presentation

The Tableau Sales Data Analysis dashboard will offer insights into how revenue relates to factors such as location, cuisine, rating, and restaurant type. Through interactive filters and visualizations, the dashboard will enable a deeper understanding of the key drivers of sales on Zomato.

A PowerPoint presentation will summarize the findings, showcasing the results from the data analysis and dashboard, along with conclusions and actionable recommendations for Zomato.

Hypotheses to Test:

1. Higher-rated restaurants generate more sales
2. Certain cuisines (e.g., Indian) outperform others (e.g., fast food, international)
3. Restaurants in metropolitan areas generate more sales than those in suburban or rural areas.
4. Sales are higher on weekends compared to weekdays.
5. Sales are affected by seasonal trends (e.g., holidays, festivals). Customer spending increases during festivals/public holidays.

Metrics to investigate

1. Total Sales & Revenue: SUM ([Total Sales Amount])
2. Average Order Value: SUM ([Total Sales Amount]) / COUNTD ([Order ID]) (This calculates the average value of each order.)
3. Sales by Restaurant: SUM ([Total Sales Amount]), grouped by Restaurant ID to show sales per restaurant.
4. Sales by Cuisine Type: SUM ([Total Sales Amount]), grouped by Cuisine Type to analyze sales per cuisine.
5. Sales Growth (Month-over-Month and Year-over-Year): Assistance is needed to calculate this metric.

Data preparation steps

Data

For our analysis, we will utilize the "Zomato data.zip" file provided by TripleTen. This file contains five separate Excel sheets. For our analysis we will be using the following 4 tables:

https://practicum-content.s3.us-west-1.amazonaws.com/data-eng/BIA/Dataset/Zomato%20data.zip

- orders: This table stores the order date and time, the quantity of items ordered, the total sales amount, the currency used for the order, the unique identifier of the user who placed the order, and the unique identifier of the restaurant from which the order was placed.
- users: This table stores the unique identifier of the user, their name, email address, encrypted password, age, gender, marital status, occupation, monthly income, highest educational qualifications, and the number of people in their family.
- menu - The Menu table contains information about the menus of different restaurants on the app. This table stores the unique identifier of the menu, the unique identifier of the restaurant associated with the menu, the unique identifier of the food item in the menu, the type of cuisine, and the price of the menu item.
- restaurant - The Restaurant table contains information about the restaurants available on the app. This table stores the unique identifier of the restaurant, its name, location, average rating, number of ratings and reviews received, an estimate of the average cost per person for a meal, the type of cuisine offered, license number, link to its website, physical address, and a list of menu items offered by the restaurant.

Data Preparation

- Format columns (e.g., dates, numerical values).
- Create calculated fields.
- Order table - In the Orders table, create new columns for day, month, week, and quarter to analyze sales over time. Convert USD currency values to INR for consistency.
- Restaurant table - In the Restaurant table, extract the city name from the city column for unique city identification.

Joins Between Tables

Following joins between the tables will be made.

- Orders and Users: Join these tables using the User ID to obtain user-specific data, such as segmenting sales by demographics like age, income, and marital status.
- Orders and Restaurant: Join these tables based on the Restaurant ID to identify which restaurants have the highest sales (filter top 20 restaurants)
- Order and menu - Join these tables based on the Restaurant ID to identify which food have the highest sales (filter top 20 foods)

Conclusion

This Sales Data Analysis Report for Zomato, created using Tableau, will offers valuable insights into Zomato’s sales performance based on factors such as location, ratings, cuisine type, and more. The interactive Tableau dashboard will allow Zomato to identify key trends and relationships, enabling data-driven decisions to enhance business strategies.