

Zomato Sales Analysis Research Plan

1. Research Objective: Perform a sales analysis for Zomato using Tableau, focusing on sales trends, revenue patterns, and performance differences by restaurant, cuisine, and location.

2. Research Questions for the Dashboard:

Sales Trends Over Time:

- How have total sales and revenue changed over time (monthly, yearly)?
- Are there noticeable seasonal trends (holidays, events)?

Sales Performance by Restaurant and Cuisine:

- Which restaurants have the highest and lowest sales?
- How do different types of cuisine perform in terms of sales?

Sales Distribution by Location:

- How are sales distributed across different cities or regions?
- Are there specific locations with notably high or low sales?

Revenue and Customer Behavior:

- How does customer order frequency affect overall revenue?
- Are repeat customers contributing significantly to revenue?

3. Hypotheses to Test:

Sales Trends:

- H1: Sales will show seasonal peaks during holidays or special events.
- H2: Sales will increase over time due to business growth.

Restaurant and Cuisine:

- H3: Some restaurants will consistently outperform others based on factors like cuisine and ratings.

Location-Based:

- H4: Urban areas will contribute more to total sales compared to rural areas due to higher demand.

Customer Behavior:

- H5: Repeat customers will generate higher revenue due to more frequent orders.

4. Visualizations to Include in Tableau:

- **Time Series Chart (Sales Trends):**
Track changes in total sales and revenue over time to identify trends.
- **Bar Chart (Sales by Restaurant):**
Compare sales across restaurants to identify top and bottom performers.
- **Pie Chart (Sales by Cuisine):**
Display the proportion of sales by cuisine to determine popularity.
- **Geographical Map (Sales by Location):**
Visualize sales distribution by city or region to identify high and low sales areas.
- **Bar chart (Sales Contribution by Occupation and Customer Type)**
Explore the relationship between user occupation, customer type and sales performance.

5. Data Preparation Steps for Tableau

Data Cleaning:

- **Standardize Date Formats:** Ensure all dates are in a consistent format.
- **Handle Missing Values:** Address any missing or null values appropriately.
- **Correct Inconsistencies:** Fix any data entry errors or inconsistencies.
- **Consistency in Currency Values:** Ensure all currency values are formatted consistently.
- **Clean Erroneous Entries:** Remove or correct any incorrect data entries.

Data Integration (Joins):

- **Food and Menu:**
 - **Common Column:** food_id
 - **Join Type:** Inner Join to connect each food item with its corresponding menu.
- **Menu and Restaurant:**
 - **Common Columns:** menu_id (Menu) and menu (Restaurant)
 - **Join Type:** Inner Join to link menus with their respective restaurants.
- **Orders and Menu:**
 - **Common Column:** r_id
 - **Join Type:** Inner Join to associate each order with the specific menu item.
- **Orders and Users:**
 - **Common Column:** user_id
 - **Join Type:** Left Join to retain all orders, even if user data is missing.

- **Restaurant and Orders:**
 - **Common Column:** *r_id*
 - **Join Type:** *Inner Join* to connect orders with their corresponding restaurants.

Feature Engineering:

- **Create Calculated Fields:** Include total revenue, average order value, and sales growth.
- **Derive Metrics:** Calculate metrics such as average sales per restaurant and total sales by cuisine.

Data Aggregation:

- **Aggregate by Periods:** Summarize data daily, weekly, or monthly for trend analysis.
- **Summarize by Categories:** Group data by city, restaurant, cuisine, and food type for comparative analysis.

KPI Calculation:

- **Calculate Key Performance Indicators (KPIs):** Include total sales, average order value, revenue growth rate, sales by cuisine/restaurant, and customer lifetime value.

Data Segmentation:

- **Segment Data:** Analyze different aspects such as sales by region, cuisine popularity, and customer demographics.

Data Validation:

- **Verify Accuracy and Completeness:** Ensure the data is accurate and complete to support reliable analysis and insights.