

TASK 1

ANALYZING RESTAURANT REVIEWS

INTRODUCTION:

The "Analyzing Restaurant Reviews" project explores customer feedback in the restaurant industry through real-time review data analysis. Using visualizations like bar charts, pie charts, and gauges, key metrics such as the number of consumers, customers, and average ratings for food, service, and overall experience are presented. The dashboard allows filtering by city and age group for deeper insights, while sentiment analysis categorizes reviews into positive, neutral, and negative, helping restaurants make data-driven decisions to enhance customer satisfaction.

DATA COLLECTION:

- **Source:** Real-time restaurant review platforms (e.g., Yelp).
- **Data Included:** Customer reviews, ratings, restaurant names, locations, and cuisine types.
- **Focus:** Customer sentiments based on reviews and ratings.
- **Scope:** Reviews across multiple restaurants to provide a comprehensive analysis.
- **Method:** Extraction of relevant data reflecting customer experiences.
- **Objective:** To gather insights on customer satisfaction and preference for further analysis

DATA ORGANIZATION:

- **Data Cleaning:** Removed duplicates, irrelevant data, and handled missing values to ensure data accuracy.
- **Categorization:** Organized data into categories such as customer demographics, restaurant information, and review sentiments.
- **Rating Breakdown:** Separated ratings into food, service, and overall experience for detailed analysis.
- **Sentiment Labeling:** Classified reviews as positive, neutral, or negative based on content and ratings.
- **Structured Format:** Arranged the data into a structured format suitable for visualization and analysis in dashboards.
- **Metadata Handling:** Included additional information like restaurant locations and cuisine types for context.

DATA ANALYSIS:

Data Analysis

- **Sentiment Analysis:** Categorized customer reviews into positive, neutral, and negative sentiments.
- **Rating Averages:** Calculated average ratings for food, service, and overall experience.

- **Customer Demographics:** Analyzed data by age groups, cities, and other demographic factors.
- **Top and Bottom Performers:** Identified restaurants with the highest and lowest ratings in different categories.
- **Trend Analysis:** Examined trends over time to see changes in customer satisfaction.
- **Comparative Analysis:** Compared ratings across different cuisines, locations, and restaurant types.
- **Visualizations:** Created bar charts, pie charts, and gauges to represent the insights effectively.

VISUALIZATION:

1. Sentiment Distribution Pie Chart:

- **Purpose:** To show the overall sentiment of the reviews.
- **Details:** Create a pie chart that displays the percentage of positive, negative, and neutral reviews. This will give a quick overview of how customers feel about the restaurant.

2. Ratings by Category Bar Chart:

- **Purpose:** To compare ratings across different review categories (e.g., food, service, ambiance).

- **Details:** Use a bar chart to visualize the average ratings for each category. This will help identify strengths and weaknesses in specific aspects of the restaurant experience.

3. Review Volume Over Time Line Chart:

- **Purpose:** To track the number of reviews over time.
- **Details:** Create a line chart that shows how the volume of reviews changes over days, weeks, or months. This can highlight trends, seasonal patterns, or periods of increased or decreased review activity.

FINDINGS:

Positive Reviews:

- **Exceptional Service:** Many positive reviews praise the restaurant's attentive and friendly staff, suggesting that exceptional service is a significant strength.
- **Quality of Food:** A high number of positive reviews highlight the quality and taste of the food, indicating that the restaurant's cuisine is well-regarded by customers.

Neutral Reviews:

- **Inconsistent Experience:** Neutral reviews often mention that the experience was neither particularly good nor bad, suggesting that there are inconsistencies in service or food quality that need to be addressed.

Negative Reviews:

- **Service and Cleanliness Issues:** Negative reviews frequently point out problems with service or cleanliness, indicating that these are critical areas where the restaurant needs to make improvements to enhance overall customer satisfaction.

DATASET:

[restaurant review analysis.csv](#)

SUMMARY DASHBOARD:



CONCLUSION:

The analysis of restaurant reviews reveals a generally positive customer sentiment, with many reviews highlighting exceptional service and high-quality food as key strengths of the restaurant. However, a notable number of neutral reviews suggest that some aspects of the dining experience are inconsistent, pointing to areas where improvements could be made to enhance customer satisfaction. Additionally, negative reviews frequently cite issues related to service and cleanliness, underscoring the need for focused efforts to address these concerns. By addressing the areas highlighted in negative reviews and striving to convert neutral experiences into positive ones, the restaurant can significantly improve overall customer satisfaction and strengthen its reputation.