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Zomato's Restaurant Analysis

Completed by Business Analyst Karima Harris

- **Objective:** To prove by showing factual stats on a dashboard that will show graphs of Zomato's restaurants with the highest revenue, user's preference, and popular cuisines.
- **Goal:** The viewers will be able to view from pie and line graphs the frequently visited restaurants and which popular cuisines caused the customers to visit the restaurants.

Executive summary

Zomato is a multinational restaurant aggregator and food delivery business. Data obtained from this business was used to conduct a comprehensive restaurant analysis to evaluate the performance of restaurants and customer engagement within the service. Based on the insights gathered, actionable recommendations to support improved financial outcomes for the business will be concluded.

Zomato's multinational restaurant and food delivery company is a great food service business. However, Zomato's food business can do better with negotiating restaurant's cuisines. Orders and restaurant data was cleaned and organized from blanks, duplicates, and faulty data. Orders and restaurant data was compared from one to many with restaurant ID as the common group. The dashboard will layout cuisines with the highest revenue, users per cuisines, revenue by restaurant, cuisine profitable items, revenue timeline, followed by Zomato's total sales. Following the dashboard, each sheet will explain the finding of each visual. Of the factual data received to analyze, the result will list the most popular restaurants with the highest revenue. The final sheet is appealing and the stats support the recommended cuisines.

Data preparation and cleaning

- **Data Collection** – food, menu, orders, restaurant, and users' data were collected and analyzed for the best factual returns.
- **Data cleaning and transformation** – food, menu, orders, restaurant, and users' data were cleaned and organized.
- **Data enrichment** – food, menu, orders, restaurant, and users' data were summarized. Orders and restaurant data was selected as data with the most relevant stats to analyze. Total revenue and the highest rating restaurants stats will be obtained from the orders and restaurant data.
- **Data Aggregation and feature engineering** – Data from orders and restaurant was separated and compared.

Research Questions and Hypotheses

- **Research Question:** What cuisine pulls the highest revenue?
- **Hypothesis:** a visualization of a pie graph with several restaurants with the highest revenue North Indian Chinese cuisines. Cuisine is listed as legend and values as sum of total sales.
- **Research Question:** What cuisine & restaurant has the highest revenue?
- **Hypothesis:** a visualization of a line graph with several cuisines within several restaurants by ID with the highest revenue. North Indian Chinese cuisines from restaurant ID 6469 at 6500 INR is the highest revenue. The cuisines are divided by the count of restaurant ID.
- **Research Question:** What month and year have generated the highest revenue?
- **Hypothesis:** a visualization of a timeline graph by month and by year with Zomato's highest revenue. January is the highest producing month at 97 million INR while 2018 is the highest producing year at 403 million INR. The sum of sales is listed by month and year.
- **Research Question:** What cuisine is the user's preference?
- **Hypothesis:** a visualization of a chart with four restaurants with the highest user's preference revenue. User's preference is North Indian, Chinese cuisines. The cuisines are listed by the count of users.
- **Research Question:** What cuisine items deliver the most revenue?
- **Hypothesis:** a visualization of a stacked bar chart by restaurant name with their highest item by revenue. Pizza is the most profitable cuisine item. The highest sale by item is stacked by each restaurant name.

Dashboard and visualization plan

- **Dashboard overview:** The dashboard has graphs of restaurants with the highest revenue, customer's preference, and popular cuisines.
- **Visualizations and metrics**

Restaurant popularity

1. Visualizations:
Stacked bar chart displaying the restaurants with the most purchased items.
2. Metrics:
Stacked bar chart reveals Pizza

Restaurant Revenue

1. Visualizations:
Line graph displaying the restaurant ID with the highest revenue
2. Metrics:
Bar graph reveals restaurant ID 6469, ID 5049, ID 4775, ID 4370

Most popular cuisines

1. Visualizations:
Pie graph displaying the restaurants with the most purchased cuisines.
2. Metrics:
Pie graph reveals North Indian Chinese, Indian, North Indian, Chinese

Data Analysis and modeling

- **Exploratory Data analysis**
Pie and bar graphs highlighting which cuisines are popular
- **Predative analysis and Hypothesis testing**
Stacked bar chart and bar graphs highlighting the highest rating restaurants and the cuisines
- **Segmentation and clustering**
Line graphs comparing revenue by month and year
Stacked bar chart comparing items by restaurants

Reports and insights

- **Report outline**
Conclusions were made from numbers linked to revenue. The purchases that caused the highest revenue are the reasoning the restaurant rates the highest.
- **Insights**
 1. Restaurant ID 6469 recorded the highest revenue, specializing in North Indian Chinese cuisine.
 2. Pizza stands out as the most profitable and preferred item.
 3. The month of January is the top-performing month, generating 97 million INR, coinciding with harvest festivals and Republic Day celebrations.

4. The year 2018 was the most successful overall, with a total revenue of 403 million INR.

- **Recommendations**

Congratulation to Zomato on achieving a total revenue of 964 million INR. The business highest revenue id driven by North Indian Chinese cuisines, which are also the most preferred choices among users.

- 1 Expand the availability of North Indian Chinese cuisines, especially during January across all restaurants.
- 2 Ensure pizza is available at all locations during January to leverage its popularity and profitability.
- 3 Offer North Indian Chinese and other Indian cuisines at all multinational restaurants.
- 4 Include pizza as a standard offering at all multinational restaurant locations.