**Objective Questions**:

1. What is the total no. of tables present in the data?

Originally, there were two tables: Raw Data and Country Description. However, after thorough analysis, the number of pivot tables has expanded to 14, along with the inclusion of 4 standard tables, 14 visual representations in the form of charts, and a comprehensive dashboard.

1. What is the total no. of attributes present in the data?

The number of attributes initially stood at 20 columns, which later expanded to 26.

1. How many categorical columns are there in the data? [Search about categorical and continuous data, and try to answer this question]

Initially, the 'Raw Data' Excel sheet contained 12 categorical and 8 continuous columns. However, after pre-processing, this layout was modified to accommodate 14 categorical and 12 continuous columns, respectively.

1. The data consists of some inconsistent and missing values so ensure that the data used for further analysis is cleaned.

At first, I pulled out the opening year from the 'datekey\_opening' column to make it easier to handle year-related queries. Then, I removed any blank entries in the 'cuisines' column to improve data cleanliness and reduce the chances of errors. For data cleaning purposes, functions such as LEFT, Remove Duplicates, Filter, and Remove were employed.

1. Using the LookUp functions, fill up the countries in the original data using the country code.

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Raw Data)

1. Create a table to represent the number of restaurants opened in each country.

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Basic Analysis)

1. Also, the management wants to look at the number of restaurants opened each year, so provide them with something here.

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Basic Analysis)

1. What is the total number of restaurants in India in the price range of 4?

There are a total of 388 restaurants in India within the price range of 4.

1. What is the average number of voters for the restaurants in each country according to the data?

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Basic Analysis)

1. Calculate the average rating for all the restaurants that have price\_range < 4 and provide online delivery. Use only the “IF” function, Logical Operators, and Aggregation functions to solve this problem. **[Note: Don’t use Conditional aggregation in this question.]**

The average rating for restaurants with a price range less than 4 and offering online delivery is 3.27.

1. Using Conditional formatting highlight the rows of restaurants that are located in the countries or cities that you’ve suggested to the management for opening new restaurants.

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Country-Wise Analysis)

1. Create a new customized price column that consists of the abbreviation/symbol of the currency along with the Average\_cost\_for\_two value. [Use string operations to do this task]

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Raw Data)

1. How can you create an array formula in Excel or Google Sheets to count the number of restaurants listed that do not offer online delivery, are in the lowest price range, and have an average cost for two people less than or equal to 250 Indian Rupees?

Average = 1691

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Basic Analysis)

**Subjective Question:**

1. Suggest a few countries where the team can open newer restaurants with lesser competition. Which visualization/technique will you use here to justify the suggestions?

The countries I suggested are Australia, Canada, Indonesia, Singapore and Sri Lanka because these have lower-rated existing restaurants which are few and with lower quality which equals to lesser competition.

To represent these, I have used a combo-chart of Clustered Columns and Line.

1. Come up with the names of States and cities in the suggested countries suitable for opening restaurants.

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Country-Wise Analysis)

1. According to the countries you suggested, what is the current quality regarding ratings for restaurants that are open there?

In the selected countries, most restaurants generally have lower ratings, with exceptions, while Indonesia boasts the highest average ratings, whereas Canada and Singapore have the lowest.

1. Also, what is the current expenditure on food in the suggested countries, so we can keep our financial expenditure in control?

Singapore tops the list with the highest maximum expenses among the chosen countries, while Canada and Sri Lanka feature the lowest expenses. By implementing cost-effective menu planning and optimizing resource usage, expenditure can be controlled.

1. Come up with the names of restaurants from the recommended states that are our biggest competitors and also those that are rated in the lower brackets, i.e. 1-2 or 2-3.

Ministry of Crab, Sushi Masa, and Talaga Sampireun emerge as top competitors with an impressive rating of 4.9, while Elite Indian Restaurant in Sri Lanka and Poets Cafe in Australia are among the least rated establishments.

1. Which cuisines should we focus on in the newer restaurants to get better feedback? Does the choice of cuisines affect the restaurant ratings?

The cuisines that consistently received high ratings across all five countries include Asian, Indonesian, Western, Cafe, Italian, Coffee and Tea, Desserts, Bakery, Seafood, Sunda, and Sushi. Among these, Italian cuisine stands out with the highest average rating of 4.90, indicating its widespread popularity across the five countries. Certainly, the selection of cuisines significantly impacts ratings, with higher ratings attracting more visitors, leading to increased sales and profits, while highly rated restaurants benefit from enhanced reputation, competitive advantage, and pricing flexibility.

1. According to our current data, should we go for online delivery and table booking? Does that affect the customer’s ratings?

Given the current data, focusing on facilitating table bookings and enhancing online delivery services could be beneficial for the team, especially considering the prevailing trend of ordering food at home. However, it's important to note that only a small fraction, approximately 7-8% of the mentioned restaurants, currently provide online delivery services. Whether this provision influences customer ratings remains uncertain, as ratings typically hinge on various factors such as food quality, pricing, ambiance, and service, rather than solely on delivery options.

1. Should the team keep the rate of cuisines higher? Will that affect the feedback? According to our data are the rates of cuisines and ratings, correlated?

Our data shows that keeping higher prices for food is important because it's linked to better ratings for restaurants. It was found out that when restaurant prices go up, their ratings tend to go up too. This strong connection, shown by a correlation of about 0.81, means that higher prices often lead to better ratings.

1. What is the distribution of the number of restaurants of different price ranges in all the countries?

Out of the price range of 1 to 4, among the 89 total restaurants mentioned in the data, Australia stands out because all four of its restaurants have prices lower than 500 INR. On the other hand, Indonesia is unique because it doesn't have any restaurants in the highest price range category of 4.

1. Explain your approach in brief for suggesting countries/cities in order to open new restaurants, if the objective and subjective questions would have not been given to assist you. **[you have to give bullet pointers in order to answer this question]**

Countries were chosen based on strategic factors:

- Less competition: These nations have fewer restaurants, which means lesser competition, which can be beneficial for new businesses.

- Lower ratings: With fewer highly-rated restaurants, there's a chance to shine and attract customers more easily.

- Fewer existing restaurants: The limited number of eateries suggests higher demand than supply, increasing the chances of success for new ventures.

Had the questions not been given, thorough research would have been essential:

Successful businesses rely on comprehensive research and understanding of the target markets. Factors like local preferences, demographics, and economic conditions would be carefully studied. Evaluating costs, ratings, and other relevant factors would also be crucial for determining the likelihood and potential success of a new venture.

**The dashboard must consist of Year-wise and country slicers.**

***Ref:*** Zomato\_Restaurants\_Expansion.xlsx (Sheet – Dashboard)