Objective Questions & Answers:

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

Answer: I have performed following operations to clean my data for analysis:

- Checked for null values in each column and remove some rows which are having null values under header Longitude, Latitude, Cuisine, Average cost for two.
- 2. Removed the "- "negative sign from Longitude and Latitude columns as coordinates cannot be negative.
- 3. "Datekey_Opening" Column was not having the dates in correct format. Changed to proper date format.
- **2.** Using the LookUp functions, fill up the countries in the original data using the country code.

Answer: I have used the VLOOKUP () in order to fetch the country name against the given country code.

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

Answer: Created a Pivot table from Cleaned dataset. Please find the table below

| | Count of | |
|----------------------|------------|--|
| Country | Restaurant | |
| Canada | 4 | |
| Qatar | 20 | |
| Singapore | 20 | |
| Indonesia | 20 | |
| Sri Lanka | 20 | |
| Philippines | 22 | |
| Australia | 24 | |
| Turkey | 34 | |
| New Zealand | 39 | |
| Brazil | 60 | |
| United Arab Emirates | 60 | |
| South Africa | 60 | |
| United Kingdom | 80 | |
| United States of | | |
| America | 419 | |
| India | 8602 | |
| Grand Total | 9484 | |

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

Answer: Created a Pivot table out to cleaned dataset. Here is the number of restaurants grouped by year.

| | Count of |
|------------|------------|
| Row Labels | Restaurant |
| 2010 | 1074 |
| 2011 | 1086 |
| 2012 | 1017 |
| 2013 | 1052 |
| 2014 | 1046 |
| 2015 | 1012 |
| 2016 | 1023 |
| 2017 | 1078 |
| 2018 | 1096 |
| Grand | |
| Total | 9484 |

5. What is the total number of restaurants in India which are in the price range of 4?

Answer: There are 382 restaurants in India which are in the price range of 4.

6. According to the data, what is the average number of voters for the restaurants in each country?

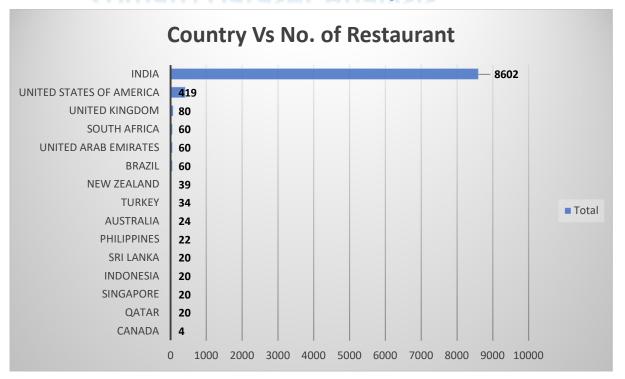
Answer: Please refer the table below explaining the average number of voters in each country

| | Average of | | |
|----------------------|------------|--|--|
| Country | Votes | | |
| Australia | 111.42 | | |
| Brazil | 19.62 | | |
| Canada | 103.00 | | |
| India | 137.41 | | |
| Indonesia | 803.10 | | |
| New Zealand | 248.46 | | |
| Philippines | 407.41 | | |
| Qatar | 163.80 | | |
| Singapore | 31.90 | | |
| South Africa | 315.17 | | |
| Sri Lanka | 146.45 | | |
| Turkey | 431.47 | | |
| United Arab Emirates | 493.52 | | |
| United Kingdom | 205.49 | | |
| United States of | | | |
| America | 435.56 | | |
| Grand Total | 157.10 | | |

Subjective Question:

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

Answer: Team can open the new restaurants in the countries like Canada, Qatar, Singapore and Indonesia. I have used here the clustered bar chart which clearly represent in the number of restaurants currently operating in each country.



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

Answer: I would suggest the cities like Chatham-Kent, Consort, Vineland Station Yorkton in Canada where new restaurant can be opened. These cities are only having one restaurants and team can target the cities for opening the new business.

3. Name the chart/spreadsheet function you will use for solving the problem.

Answer: I have used the Clustered bar chart for visualisation created using the pivot table. My Pivot table has Country and Cities in row and Count of restaurant in values.

4. According to the countries you suggested, what is the current quality in terms of ratings for restaurants that are open there?

Answer: Canada has Average rating of 3.58, Indonesia is 4.34, Qatar is 4.06 and Singapore is 3.58. Overall, we have average rating of 3.97 close to 4.0 in terms of ratings for the restaurant that are opened in these countries.

The Min-Max range of rating for the restaurants in Canada is 3.00-4.30, Indonesia is 3.70-4.90, Qatar is 3.40-4.90 and Singapore is 3.00-4.20.

5. Will you use any aggregation function or a visualization here to solve the problem?

Answer: Yes, I had used Min, Max, Average and Count aggregation function to solve the problems. For visualization, I had used the Clustered bar chart.

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

Answer: Currently, Average cost of two people on food in Canada is USD 36.25, Indonesia is IDR 290250, Qatar is QR 224 and USD 156 in Singapore.

7. Mention the functionality which you will use for giving the suggestions, will it be any aggregated function or a visualization?

Answer: I have made my suggestions based on data where I have considered the country with least number of restaurant so competition will be less and it is comparatively less expenditure for a company to open new restaurant there.

8. What is the distribution of several restaurants of different price ranges in all the countries.

Answer: Please find the distribution of restaurant of each price range in all countries

| Country | 1 | 2 | 3 | 4 |
|----------------------|---------|---------|---------|--------|
| Australia | 4 | 14 | 5 | 1 |
| Brazil | 2 | 7 | 16 | 35 |
| Canada | | 3 | | 1 |
| India | 4280 | 2844 | 1096 | 382 |
| Indonesia | | 1 | 19 | |
| New Zealand | 3 | 4 | 16 | 16 |
| Philippines | | 1 | 12 | 9 |
| Qatar | | 1 | 5 | 14 |
| Singapore | | 1 | 5 | 14 |
| South Africa | | 4 | 17 | 39 |
| Sri Lanka | | 6 | 11 | 3 |
| Turkey | | 11 | 18 | 5 |
| United Arab Emirates | | 9 | 29 | 22 |
| United Kingdom | 4 | 28 | 32 | 16 |
| United States of | | | | |
| America | 124 | 165 | 107 | 23 |
| Grand Total | 4417.00 | 3099.00 | 1388.00 | 580.00 |