**Answers for Objective questions**

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

|  |  |
| --- | --- |
| **Row Labels** | **Count of RestaurantID** |
| Canada | 4 |
| Qatar | 20 |
| Singapore | 20 |
| Sri Lanka | 20 |
| Indonesia | 21 |
| Philippines | 22 |
| Australia | 24 |
| Turkey | 34 |
| New Zealand | 40 |
| Brazil | 60 |
| United Arab Emirates | 60 |
| South Africa | 60 |
| United Kingdom | 80 |
| United States of America | 434 |
| India | 8652 |
| **Grand Total** | **9551** |

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

|  |  |
| --- | --- |
| **Row Labels** | **Count of RestaurantID** |
| 2010 | 1080 |
| 2011 | 1098 |
| 2012 | 1022 |
| 2013 | 1061 |
| 2014 | 1051 |
| 2015 | 1024 |
| 2016 | 1027 |
| 2017 | 1086 |
| 2018 | 1102 |
| **Grand Total** | **9551** |

**3)What is the total number of restaurants in India which are in the price range 4?**

|  |  |
| --- | --- |
| **Restaurants in India with Price range 4** | 388 |

**4)What is the average number of voters for the restaurants in each country according to the data?**

|  |  |
| --- | --- |
| **Row Labels** | **Average of Votes** |
| Australia | 111.42 |
| Brazil | 19.62 |
| Canada | 103.00 |
| India | 137.21 |
| Indonesia | 772.10 |
| New Zealand | 243.03 |
| 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 | 428.22 |
| **Grand Total** | **156.91** |

**Data Analysis and Visualizations**

**(Subjective Questions)**

**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?**

**Ans)** To open a new restaurant with less competition is only possible if there are a very less restaurants in the area where you want to start your restaurant. So, for this we have to find the countries which have less restaurants.

In order to display the number of restaurants in each country, I have constructed a **Pivot Table** and visualized as **Bar Graph Chat**. I have only considered the countries which has restaurants less than 50.

Countries with a smaller number of restaurants has lesser competition and the demand will be high (cuz they have very less restaurants) so even the business will run very well.

**2)Come up with the names of States and cities in the suggested countries suitable for opening restaurants. Name the chart/spreadsheet function you will use for solving the problem?**

**Ans)** To come up with names of cities that are suitable for opening a restaurant we have to look into the cities of the countries answered in above question which have less number of restaurants .

So for even this I have constructed a **Pivot Table** ,in which I have added country and city in Rows and then RestaurantID in Values and sorted it in ascending order with respect to number of restaurants .Here I have added Value filter for Country as <50 Restaurants and for city <5 Restaurants.

Then I have Visualised it as **Column Chat** and represented it on the dashboard.

There were some Restaurants whose city was mentioned Incorrectly and was not able to clear during pre-processing ,I have corrected it here.

**3)According to the countries you suggested, what is current quality in terms of ratings for restaurants that are opened there? Will you use any aggregation function or a visualization here to solve the problem?**

**Ans)** I have used aggregation function ,i.e., AVERAGEIF function to get the average ratings of the restaurants in a given country. Then visualized it as a Column Chart and placed it in the dashboard.

**4) Also what is the current expenditure on the food in the suggested countries, so that we can keep our financial expenditure in control? Mention the functionality which you will use for giving the suggestions, will it be any aggregated function or a visualization?**

**Ans)** In the data provided we have a column called Average\_cost\_for\_two which is average cost for 2 people to eat at that Restaurant ,So I have created a new column saying Average\_cost\_for\_one .Then I have used Aggregation Function to get the Average expenditure of one person to eat in the given suggested countries.The function I have used is AVERAGEIF.

**5)Come up with the names of restaurants from the recommended states who are our biggest competitors and also those which are rated in the lower brackets,i.e.1-2 or 2-3. How do you decide if anyone is a competitor?**

**Ans)** We can get several factors to decide if anyone is a competitor. I have considered one of the factors here as a decision maker and it is Rating. If a Restaurant has a good rating like rating greater than 4.5, I have considered them as the competitors.

I have constructed a pivot table in order to get it, and also provided with the top 10 names of the Restaurants in the dashboard.

In the next sheet I have constructed a new pivot table to get the restaurants which are rated in the lower brackets, i.e. 1-2 or 2-3.

**6)Which cuisines should we focus in the newer restaurants to get better feedbacks? Does the choice of cuisines affect the restaurant ratings? What is the basis for the suggestions? And mention how did you decide if the cuisines affect the ratings?**

**Ans)** The choice of cuisines can indeed affect restaurant ratings.  
A broader range of cuisines might attract a more varied customer base and positively impact ratings. We should also consider the local preferences and demographics of the target audience,Offering cuisines that align with local tastes can contribute to higher ratings.

To see how cuisines effect restaurant ratings we can get it by seeing the correlation but,we don’t have enough data on every possible cuisine .

But I have constructed a pivot table with cuisine vs rating , and I have considered only the cuisines whose rating is greater than 4.5,This could help the newer restaurants to get better feedback.

**7) According to our current data, should we go for online delivery and table booking? Does that affect the customer’s ratings? Mention your approach and spreadsheet function for the answer.**

**Ans)**If a Restaurant is offering online delivery and table booking then it will affect customers rating and has a positive correlation. So by having online delivery and table booking system in a restaurant it will help in increasing customer ratings.

Here I have calculated mean and standard deviation of all the four case i.e, The online delivery, without online delivery, with table booking, without table booking. By this we can conclude that having online delivery system and table bookings system is helping in increasing the customer ratings. And then have constructed a column chart to visualize these things and also show them in the dashboard.

**9)What is the distribution of number of restaurants of different price ranges in all the countries? Distribution means the numbers of different price ranges, how will you show this using a chart?**

**Ans)** Inthe given table the prizes are ranged from 1-4. I have constructed pivot table with price range vs number of restaurants and I have made a column chart for the data.