**Objective Questions**

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

**Solution:**

The dataset contains **two distinct tables**; each located in a separate sheet:

* **"Raw Data" Sheet**:  
  This is the main table with detailed information on restaurants—covering aspects like restaurant names, city, ratings, cuisines, average cost, and more. It serves as the core dataset for any analysis.
* **"** **Country description raw" Sheet**:  
  This sheet provides a reference table that maps **country codes** to their corresponding **country names**. It acts as a lookup table that supports the main dataset.

So, the total number of tables present in the data is **two**, with each playing a unique role in offering complete analytical context.

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

**Solution:**

* The dataset contains a total of **20 attributes** in the **"Raw Data"** sheet and **2 attributes** in the **"Country description raw"** sheet.  
  So, there are **22 attributes in total** across both sheets.

1. **How many categorical columns are there in the data?**

**Solution:**

* There are **14 categorical columns** in the **"Raw Data"** sheet:
* Restaurant ID
* Restaurant Name
* Country Code
* City
* Address
* Locality
* Locality Verbose
* Cuisines
* Currency
* Has\_Table\_booking
* Has\_Online\_delivery
* Is\_delivering\_now
* Switch\_to\_order\_menu
* Price\_range
* There are **2 categorical columns** in the **"Country description raw"** sheet:
* Country Code
* Country

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

**Solution:**

To prepare the dataset for analysis, the following data cleaning steps were performed:

* **Removed rows with missing values in the Cuisines column**
  + **Logic**: Applied a **filter** on the Cuisines column, identified the blank entries, and deleted those rows, as the data is large and there are only a few blank cells.
* **Trimmed extra spaces** from Address, Locality, and Locality Verbose
  + **Formula**: **=TRIM(cell)**
* **Filled missing values in Average Cost for two**
  + **Logic**: All “0” values were in **Price\_range category "1"**, so the **median** of this category was calculated and used to fill the gaps.
* **Converted the *Date key opening*** column from string format to proper date format.
* **Extracted Year and Month** from the converted date
  + **Year**: =**TEXT(cell, "yyyy")**
  + **Month**: =**TEXT(cell, "mmmm")** for full month names

These cleaning actions helped make the dataset more structured and analysis-ready. I kept the given raw data as it is rather created another worksheet “Raw Data (2)” and have done all above changes to this sheet.

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

**Solution:**

To populate the **Country** names based on the **Country Code**, a **VLOOKUP** function was applied in the **"Raw Data (2)"** sheet.

* A new column named **Country** was added in the **"Raw Data (2)"** sheet.
* The formula used to retrieve the country names from the **"country description"** sheet was: **=VLOOKUP($C2, 'country description'!$A$1:$B$16, 2)**
* **Explanation**:
  + **$C2** refers to the **Country Code** in the current row of the "Raw Data (2)" sheet.
  + **'country description'!$A$1:$B$16** is the lookup table containing country codes and their corresponding country names.
  + **2** indicates that the country name will be fetched from the second column of the lookup range.

This formula was applied throughout the column to fill in all the corresponding country names accurately.

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

**Solution:**

To find out how many restaurants are opened in each country, a Pivot Table was created using the data from the **"Raw Data (2)"** sheet.

* Selected all the data in the **"Raw Data (2)"** sheet.
* Went to **Insert → Pivot Table** and chose the location to place the Pivot Table.
* Added the **Country** field to the **Rows** section and the **Restaurant ID** field to the **Values** section, then changed the summary function to **Count** to display the number of restaurants.
* Also created a chart for better visualization.

**Output:** A table and a chart were generated showing the **count of restaurants in each country**, based on the unique Restaurant IDs. This showing that India and USA have the most count of restuarants.

|  |  |
| --- | --- |
| **Country** | **No. of Restaurants** |
| Australia | 24 |
| Brazil | 60 |
| Canada | 4 |
| India | 8652 |
| Indonesia | 21 |
| New Zealand | 40 |
| Philippines | 22 |
| Qatar | 20 |
| Singapore | 20 |
| South Africa | 60 |
| Sri Lanka | 20 |
| Turkey | 34 |
| United Arab Emirates | 60 |
| United Kingdom | 80 |
| United States of America | 425 |
| **Grand Total** | **9542** |

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

**Solution:**

To help the management analyse how many restaurants were opened each year, a Pivot Table was created using the data from the **"Raw Data (2)"** sheet.

* Selected all the data in the **"Raw Data (2)"** sheet.
* Clicked on **Insert → Pivot Table** and selected the location for the Pivot Table.
* Added the **Year** field (from the newly created column) to the **Rows** section, and the **Restaurant ID** field to the **Values** section. Then, changed the summary function to **Count** to display the number of restaurants.

**Output:** A table was generated displaying the **number of restaurants opened each year**, giving the management a clear view of yearly restaurant growth.

|  |  |
| --- | --- |
| **Year** | **No. of Restaurants** |
| 2010 | 1079 |
| 2011 | 1096 |
| 2012 | 1022 |
| 2013 | 1059 |
| 2014 | 1049 |
| 2015 | 1023 |
| 2016 | 1026 |
| 2017 | 1086 |
| 2018 | 1102 |
| **Grand Total** | **9542** |

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

**Solution:**

To determine the total number of restaurants in **India** with a **price range of 4**, the **COUNTIFS** function was used.

**Formula used: =COUNTIFS('Raw Data'!D2:D9552, "India",'Raw Data'!Q2:Q9552,"4")**

**Output:** The result is **388**, indicating there are **388 restaurants** in India with a **price range of 4**.

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

**Solution:**

To calculate the average number of voters for restaurants in each country, a Pivot Table was created using the data from the **"Raw Data (2)"** sheet.

* Selected all the data in the **"Raw Data (2)"** sheet.
* Went to **Insert → Pivot Table** and selected the location for the Pivot Table.
* Added the **Country** field to the **Rows** section and the **Votes** field to the **Values** section. Then changed the summary function to **Average** to get the average number of voters per country.

**Output:** This process displays the **average number of votes** received by restaurants in each country.

|  |  |
| --- | --- |
| **Country** | **Average of Voters** |
| Australia | 111 |
| Brazil | 20 |
| Canada | 103 |
| India | 137 |
| Indonesia | 772 |
| New Zealand | 243 |
| Philippines | 407 |
| Qatar | 164 |
| Singapore | 32 |
| South Africa | 315 |
| Sri Lanka | 146 |
| Turkey | 431 |
| United Arab Emirates | 494 |
| United Kingdom | 205 |
| United States of America | 431 |
| **Grand Total** | **157** |

1. **Calculate the average rating for all the restaurants that have price\_range < 4 and provide online delivery.**

**Solution:**

As mentioned in the problem, **[Note: Don’t use Conditional aggregation in this question]**, the following two approaches were used to calculate the **average rating** of restaurants that have a **price range < 4** and **provide online delivery**:

**Approach 1: Using IF and AVERAGE**

* In the **"Raw Data (2)"** sheet, a helper column ‘**Q. 10, “IF” function**’ was created with the formula**: =IF(AND($S2<4, $P2="Yes"), $X2, "")** , This identified ratings of restaurants meeting both conditions.
* Then the average was calculated using**: =AVERAGE('Raw Data (2)'!AB2:AB9543)**
* **Answer got:** 3.27

**Approach 2: Using AVERAGE with nested IF (without conditional aggregation)**

* Formula used: **=AVERAGE(IF(('Raw Data (2)'!P2:P9543="Yes"), IF('Raw Data (2)'!S2:S9543<4, 'Raw Data (2)'!X2:X9543)))**
* **Answer got:** 3.27

**Output:** In both approaches, the **average rating** for restaurants with **price range less than 4** and **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.**

**Solution:**

To visually identify restaurants located in the **countries suggested for new restaurant openings**, **Conditional Formatting** was applied in the **"Raw Data (2)"** sheet.

* Used **Conditional Formatting → New Rule → Format only cells that contain**.
* Applied this rule separately for each of the following countries:
  + **Australia**
  + **Canada**
  + **Indonesia**
  + **Philippines**
  + **Sri Lanka**

**Output:** This highlights the cells in the **Country** column that match the selected countries, making it easy to spot potential markets for expansion.

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]**

**Solution:**

To create a new column that displays the **currency abbreviation** along with the **Average cost for two**, a **string operation formula** was used in the **"Raw Data (2)"** sheet.

* A new column named **Customized\_Average\_Cost\_for\_two** was created.
* Formula used: **=MID(M2, FIND("(", M2) + 1, FIND(")", M2) - FIND("(", M2) - 1)& U2**
* This formula extracts the **currency abbreviation/symbol** from the **Currency** column and combines it with the value from the **Average\_cost\_for\_two** column.

**Output:** A new column is generated that shows the cost in a customized format such as Rs300, $315, or AED350, combining both currency and value in one field.

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?**

**Solution:**

To calculate the number of restaurants 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**, the following **array formula** was used in the **"Raw Data (2)"** sheet:

* Formula used: **{=COUNTIFS('Raw Data (2)'!P:P, "No", 'Raw Data (2)'!S:S, "1", 'Raw Data (2)'!W:W, "<=250")}**
* This formula checks all three conditions simultaneously and returns the total count of rows matching the criteria.

**Output:** The final count is **1676**, meaning there are **1676 restaurants** meeting all three specified conditions.

**Subjective Questions**

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?**

**Approach:**

To identify ideal countries for expansion, I began by analyzing where restaurant competition is low, but customer engagement and satisfaction remain promising. The idea was to find markets that are not yet saturated but show potential based on demand signals like ratings and voter count.

**Strategy and Criteria:**

I focused on countries that met the following conditions:

* Fewer than **30** listed restaurants (indicating lower competition)
* Average rating **≥ 4** (showing strong customer approval)
* Coverage in **10+ cities** (ensuring regional spread)
* **More than 100 votes** (signifying active customer participation)

**Suggested Countries and Insights:**

* **Canada:** Despite good potential, it has only 4 restaurants, ratings less than 4, and limited city coverage (only 4), which presents an opportunity for growth.
* **Australia:** With large geography and coverage in 23 cities, the restaurant count is still under 30, making it a prime spot for new openings.
* **Sri Lanka:** Only 1 city is currently served and fewer than 30 restaurants are listed, but the demand signals are promising.
* **Indonesia:** Shows solid ratings with limited restaurant presence and only 4 cities served.
* **Philippines:** Offers good ratings and decent coverage in 9 cities, but still underrepresented in terms of total restaurant count.

**Visualization:**  
To justify these recommendations, I used **Pivot Tables** to compare restaurant counts, average ratings, number of cities, and voter counts across countries.

|  |  |  |  |
| --- | --- | --- | --- |
| **countries** | **Avg of Rating** | **Avg of Votes** | **No. of Restaurants** |
| India | 2.770550162 | 137 | 4 |
| Canada | 3.575 | 103 | 20 |
| Singapore | 3.575 | 32 | 20 |
| Australia | 3.658333333 | 111 | 20 |
| Brazil | 3.846666667 | 20 | 21 |
| Sri Lanka | 3.87 | 146 | 22 |
| United States of America | 4.014352941 | 431 | 24 |
| Qatar | 4.06 | 164 | 34 |
| United Kingdom | 4.1 | 205 | 40 |
| South Africa | 4.21 | 315 | 60 |
| United Arab Emirates | 4.233333333 | 494 | 60 |
| New Zealand | 4.2625 | 243 | 60 |
| Indonesia | 4.295238095 | 772 | 80 |
| Turkey | 4.3 | 431 | 425 |
| Philippines | 4.468181818 | 407 | 8652 |
| **Grand Total** | **2.890347935** | **156.7720604** | **9542** |

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

**Approach:**

After identifying the countries with promising potential for expansion, the next step was to pinpoint the specific states and cities within them. I focused on finding areas where competition is still low, but market conditions—such as pricing and customer satisfaction—are favorable for opening new restaurants.

**Strategy and Criteria:**

To select suitable locations, I followed a two-layered filter:

* **State-level filter**: Chose states with fewer than 4 restaurants listed, indicating lower saturation.
* **City-level filter**: From those states, selected cities where the *average cost for two* was close to the overall country’s average, suggesting affordability balanced with revenue potential.

**Insights and Recommendations:**

Here are the top recommended locations based on this strategy:

|  |  |  |
| --- | --- | --- |
| **Suggested Country** | **State/Province** | **Cities** |
| **Australia** | Montserrado | Paynesville |
|  | Queensland | Flaxton, Montville, Palm Cove |
|  | Western Australia | Middleton Beach |
|  | South Australia | Tanunda |
| **Canada** | Alberta | Consort |
|  | Ontario | Vineland Station |
|  | Saskatchewan | Yorkton |
| **Indonesia** | Banten | Tangerang |
|  | West Java | Bandung, Bogor |
| **Philippines** | Cavite | Tagaytay City |
|  | Laguna | Santa Rosa |
|  | Metro Manila | Mandaluyong City, Pasay City, Taguig City |
| **Sri Lanka** | Western Province | Colombo |

Each of these locations aligns with the strategic criteria, offering a balance of customer potential, higher revenue potential and lower competition. These are high-opportunity zones for new restaurant ventures.

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

**Approach:**  
To assess the current quality of restaurants in the suggested countries, I created a pivot table filtered by those specific countries and visualized the average ratings using a chart. This helped in comparing the performance across markets.

**Insights:**

* **Canada**: 3.58
* **Australia**: 3.66
* **Sri Lanka**: 3.87
* **Indonesia**: 4.30
* **Philippines**: 4.47

**Suggestions:**  
While Indonesia and the Philippines already show strong customer satisfaction, Canada, Australia, and Sri Lanka fall behind in terms of average ratings. These countries could benefit from offering online delivery, enabling table booking, and diversifying their cuisine offerings — steps that could significantly boost customer satisfaction and make them more promising for new restaurant ventures.

**Visualization:**

|  |  |  |
| --- | --- | --- |
| **Countries** | **Avg of Rating** | **Avg of Votes** |
| Canada | 3.58 | 103 |
| Australia | 3.66 | 111 |
| Sri Lanka | 3.87 | 146 |
| Indonesia | 4.30 | 772 |
| Philippines | 4.47 | 407 |

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

**Approach:**  
I used a pivot table and chart to check the average food cost for two people in each of the suggested countries. This helped understand how much people usually spend on eating out.

**Insights (Average Cost for Two in INR):**

* **Sri Lanka**: 677
* **Indonesia**: 1,490
* **Australia**: 2,066
* **Canada**: 3,110
* **Philippines**: 10,348

**Suggestions:**  
Food costs are different in each country. So, we can plan our budget accordingly:

* **Sri Lanka and Indonesia** are more affordable. We can open restaurants here with simple menus and good pricing to attract more people.
* **Australia and Canada** are mid-range. If we manage things smartly, like choosing the right location and keeping costs low; we can still make good profits.
* **Philippines** is expensive. Here, it’s better to go for a premium restaurant setup in popular cities where people are willing to spend more.

By adjusting our plans based on each country’s spending habits, we can control expenses and run the restaurants successfully.

**Visualization:**

|  |  |
| --- | --- |
| **Suggested Countries** | **Avg of Avg\_Cost\_for\_two\_INR** |
| Sri Lanka | 677 |
| Indonesia | 1490 |
| Australia | 2066 |
| Canada | 3110 |
| Philippines | 10348 |

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.

**Approach:**  
To find both our biggest competitors and the weaker restaurants in the recommended countries, I used pivot table, filter by suggested countries. I focused on restaurants rated **above 4.2** (to identify biggest competitors) and those rated **between 1 and 3** (to spot weaknesses in the market).

**Insights:**

**For Biggest Competitors (Rating above 4.2):**  
These restaurants have strong customer trust and are likely setting the standard in their areas

**For Low-Rated Restaurants (Rating 1–3):**  
These are struggling restaurants that may not meet customer expectations,

|  |  |  |
| --- | --- | --- |
| **Country** | **Biggest competitors** | **Lowest ratings** |
| Australia | Vivo Bar and Grill | Pier 70 |
|  | 1918 Bistro & Grill | Poets Cafe |
|  |  |  |
| Canada | Lake House Restaurant | Consort Restaurant |
|  |  |  |
| Indonesia | Talaga Sampireun | Onokabe |
|  | Lemongrass | Momo Milk |
|  | Noah's Barn Coffeenery |  |
|  |  |  |
| Philippines | Balay Dako | Cafe Arabelle |
|  | Nonna's Pasta & Pizzeria |  |
|  |  |  |
| Sri Lanka | Arabian Knights | Elite Indian Restaurant |
|  | Burger's King | Queen's Cafe |
|  | Butter Boutique |  |
|  | Cafe Beverly |  |
|  | Carnival Ice Cream |  |
|  | Cricket Club Cafe |  |
|  | Ministry of Crab |  |
|  | Simply Strawberries By Jagro |  |
|  | T.G.I. Friday's |  |
|  | The Commons |  |
|  | The Manhattan FISH MARKET |  |
|  | The Sizzle |  |
|  | Upali's |  |

**Suggestion:**

* High-rated restaurants show that customers value quality, ambience, and consistent service. Competing in such markets means we need to offer something unique—like signature dishes, cozy interiors, or seamless service.
* On the other hand, the low-rated restaurants reveal gaps in the market. These are opportunities. By avoiding their mistakes—like poor customer handling or slow service—we can step in and win over their dissatisfied customers. So, with thoughtful planning and customer-first thinking, we can confidently enter and grow in these regions.

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

**Approach:**

To decide which cuisines we should focus on in the new restaurants, I analyzed two key factors:

* The **average rating** of each cuisine.
* The **total number of votes** each cuisine received, as it indicates popularity and reach.

**Insights:**

|  |  |
| --- | --- |
| **countries** | **Suggested Cuisines** |
| Australia | Mediterranean, Seafood |
|  | Modern Australian, Australian |
|  | Pizza, Bar Food |
| Canada | Italian, Mediterranean, Pizza |
| Indonasia | Asian, Indonesian, Western |
|  | Burger |
|  | Cafe, Coffee and Tea, Western |
|  | Cafe, Desserts, Beverages |
|  | Cafe, Italian, Coffee and Tea, Western, Indonesian |
|  | Cafe, Western |
|  | Desserts, Bakery, Western |
|  | Japanese, Sushi, Ramen |
|  | Sunda, Indonesian |
|  | Sushi, Japanese |
| Phillipines | American, Asian, Italian, Seafood |
|  | Cafe, Bakery, American, Italian |
|  | European, Asian, Indian |
|  | Filipino |
|  | Filipino, Mexican |
|  | Japanese |
|  | Japanese, Sushi |
|  | Seafood, American, Mediterranean, Japanese |
| Srilanka | Juices, Desserts |
|  | Seafood |

**Strategy and Criteria:**

* **Australia**: These cuisines consistently have ratings above 4.2, indicating strong customer satisfaction.
* **Canada**: Italian, Mediterranean, and Pizza are the highest-rated, averaging around 4.3.
* **Indonesia**: These cuisines maintain ratings above 4.2 with a good number of votes, showing both quality and demand.
* **Philippines**: The suggested cuisines have ratings above 4.2 and receive over 350 votes, indicating wide appeal.
* **Sri Lanka**: Juices, desserts, and seafood have high ratings above 4.2, making them customer favorites.

**Suggestion:**

Based on the analysis, it’s clear that the choice of cuisine directly impacts restaurant ratings and customer response.

* Cuisines like **Mediterranean, Seafood**, **Pizza, Bar Food**, **Italian, Mediterranean, Pizza**, **Japanese, Sushi, Ramen**, **Cafe, Italian, Coffee and Tea, Western, Indonesian**, and **Filipino, Mexican** consistently receive high ratings and strong vote counts across countries.
* **Cafe, Coffee and Tea, Western**, **Desserts, Bakery, Western**, and **Juices, Desserts** also perform well, especially in Indonesia and Sri Lanka.
* In contrast, cuisines with broader or less specific combinations, such as **Asian**, **Modern Australian**, and **North Indian, Chinese, Sri Lankan**, tend to receive lower ratings and fewer votes in the suggested countries.

So, when planning new restaurants, focusing on cuisines that already show strong local approval and engagement can lead to better feedback and long-term success.

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

**Approach:**

To analyze the impact of **online delivery** and **table booking** on customer ratings, I created a pivot table with these two factors in the Rows and Columns section, and the **average of ratings** in the Values section.  
I also added a **country filter** to compare results across different regions, especially focusing on the countries selected for expansion.  
This was further visualized using a chart for a clearer view of rating variations.

**Visualization:**

|  |  |  |  |
| --- | --- | --- | --- |
| Country | (All) |  |  |
|  |  |  |  |
| **Average of Rating** | **Online delivery** |  |  |
| **online table booking** | **Yes** | **No** | **Grand Total** |
| Yes | 3.60 | 3.41 | 3.48 |
| No | 3.22 | 2.68 | 2.81 |
| **Grand Total** | **3.29** | **2.75** | **2.89** |

**Insights:**

* The **suggested countries for expansion** currently do **not offer online delivery**.
* In countries where **online delivery** and **table booking** are available, both **ratings** and **vote counts** are observed to be **higher**.
* For instance, in **India**, the average rating for restaurants **with online services** is **3.6**, compared to **2.5** for those **without**.
* This trend indicates a **positive correlation** between offering online services and receiving better customer feedback.

|  |  |  |
| --- | --- | --- |
| Has\_Table\_booking | No |  |
| Has\_Online\_delivery | No |  |
|  |  |  |
| **Price range** | **Avg of Rating** | **Avg of Votes** |
| Australia | 3.7 | 111 |
| Brazil | 3.8 | 20 |
| Canada | 3.6 | 103 |
| India | 2.5 | 90 |
| Indonesia | 4.3 | 772 |

|  |  |  |
| --- | --- | --- |
| Has\_Table\_booking | Yes |  |
| Has\_Online\_delivery | Yes |  |
|  |  |  |
| **Price range** | **Average of Rating** | **Average of Votes** |
| India | 3.6 | 471 |
| United Arab Emirates | 4.3 | 635 |

**Suggestion:**

Introducing **online delivery** and **table booking** in the proposed expansion countries can be a smart move. Not only does it align with evolving customer preferences, but it also has the potential to improve ratings, drive higher engagement, and open new business avenues.

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?**

**Approach:**

To evaluate if cuisine pricing affects customer feedback, I analyzed the **suggested cuisines** and extracted the **maximum and minimum prices**, along with the corresponding **average ratings**.

* Formula for **maximum price**:  
  **=MAXIFS('Raw Data (2)'!$W$2:$W$9542, 'Raw Data (2)'!$L$2:$L$9542, 'Subjective questions'!A328)**
* Formula for **minimum price**:  
  **=MINIFS('Raw Data (2)'!$W$2:$W$9542, 'Raw Data (2)'!$L$2:$L$9542, 'Subjective questions'!$A328)**
* Used **AVERAGEIFS** to calculate ratings at both price extremes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Suggested Cuisines | Maximum Price | Ratings for Max | Minimun Price | Ratings for Min |
| Mediterranean, Seafood | 2574 | 4.4 | 2574 | 4.4 |
| Modern Australian, Australian | 2574 | 4.4 | 2574 | 4.4 |
| Pizza, Bar Food | 34320 | 3.6 | 1716 | 4.6 |
| Italian, Mediterranean, Pizza | 6006 | 4.3 | 2145 | 4.1 |
| Asian, Indonesian, Western | 4240 | 4.6 | 4240 | 4.6 |
| Burger | 3432 | 4.45 | 636 | 4.4 |
| Cafe, Coffee and Tea, Western | 795 | 4.2 | 795 | 4.2 |
| Cafe, Desserts, Beverages | 371 | 3.7 | 371 | 3.7 |
| Cafe, Italian, Coffee and Tea, Western, Indonesian | 874.5 | 4.6 | 874.5 | 4.6 |
| Cafe, Western | 1590 | 4.3 | 1590 | 4.3 |
| Desserts, Bakery, Western | 1060 | 4.6 | 1060 | 4.6 |
| Japanese, Sushi, Ramen | 1060 | 4.4 | 1060 | 4.4 |
| Sunda, Indonesian | 1060 | 4.9 | 1060 | 4.9 |
| Sushi, Japanese | 2650 | 4.9 | 1882.8 | 3.5 |
| American, Asian, Italian, Seafood | 11592 | 4.5 | 11592 | 4.5 |
| Cafe, Bakery, American, Italian | 9660 | 4.4 | 9660 | 4.4 |
| European, Asian, Indian | 38640 | 4.9 | 38640 | 4.9 |
| Filipino | 7728 | 4.5 | 6440 | 4.2 |
| Filipino, Mexican | 5152 | 4.85 | 5152 | 4.85 |
| Japanese | 7728 | 4.5 | 858 | 4.6 |
| Japanese, Sushi | 11640 | 4.4 | 1100 | 3.4 |
| Seafood, American, Mediterranean, Japanese | 19320 | 4.7 | 19320 | 4.7 |
| Juices, Desserts | 370.5 | 4.5 | 300 | 3.5 |
| Seafood | 6006 | 4 | 500 | 4.2 |

Then, I created a **scatter chart** to visualize the relationship between prices (max and min) and ratings.

**Visualization:**

After observing the chart, I calculated the **correlation coefficient** to check the strength of this relationship using:

**=CORREL(D328:D351, F328:F351)**

**Insights:**

* The chart showed that both **max and min-priced cuisines received good ratings**, indicating no strong visual pattern.
* The correlation coefficient came out to be **0.289049328**, which confirms a **weak positive relationship** between pricing and ratings.
* This means that simply increasing cuisine prices does **not significantly improve customer feedback**.

**Suggestion:**

* **Ratings are not driven by price alone**. Customers care more about **value**, **taste**, and the **overall dining experience**.
* Therefore, instead of focusing on higher pricing, we should aim to offer a **well-balanced experience**, one that justifies the price through service, quality, and ambiance.

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

**Approach:**

A pivot table was created using **Price Range** in the row section and **Count of RestaurantID** in the values section. A **country** slicer was added to filter the data and view the distribution by region. This setup enables a clear analysis of how restaurants are spread across different pricing categories, and the slicer allows easy comparison across countries.



**Insights:**

* The majority of restaurants fall under **Price Range 1**, with **4,438** restaurants, indicating a strong focus on budget-friendly dining options.
* **Price Range 2** also has a significant presence with **3,113** restaurants, suggesting a decent share of mid-range offerings.
* Higher-end restaurants, i.e**., Price Range** **3 and 4**, are less common with only 1,406 and **586** restaurants, respectively.

**Output:**

This distribution clearly shows that affordable dining is the most common, with the majority of restaurants falling under price range 1 and 2. This suggests that most customers prefer budget-friendly options. On the other hand, premium dining (price range 3 and 4) is much less common, indicating it’s a niche market with fewer players but possible room for growth in select areas.  
**Suggestion:** While affordable options should remain a priority, introducing a few premium dining experiences in high-potential cities could help tap into an underserved segment.

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]**

If I hadn’t been given any specific objective or subjective questions, I would still follow a clear, step-by-step method to find the best countries or cities for opening new restaurants. I would begin by thinking from a business angle—*What really makes customers happy? Which places show potential for growth?* These questions would guide the rest of my analysis.

* **Framing key questions internally**: I would list down the key things we need to know—like which cuisines are working well, how customers are rating restaurants, what price ranges are common, and which services (like online delivery) are popular. These questions would shape my research.
* **Preparing and cleaning the dataset**: Just like I did throughout the project, I would ensure the dataset is consistent and reliable by handling missing values, duplicates, and formatting inconsistencies. A clean dataset is important to make sure the insights we get are correct and useful.
* **Use pivot tables to explore patterns**: I would create pivot tables to break down data by country, price, ratings, and services. This helps find useful patterns—like which places have more high-rated restaurants or which cuisines get the most votes.
* **Make charts to spot trends easily**  
  Turning pivot data into charts makes it easier to understand. For example, in the main project, I saw that countries offering online delivery often had better ratings—this kind of trend becomes clearer with visuals.
* **Apply simple stats for deeper clarity**: When visuals aren’t enough, I’d run basic statistical checks like I did with correlation between price and rating to see if there’s any hidden connection between two things.
* **Bring it all together in a dashboard**: I’d put everything i.e, charts, tables, insights into one dashboard so the team can see the full picture at once. This makes comparing countries and making decisions much faster and easier.

Overall, this step-by-step but flexible method makes sure that even without set questions, the insights we find are useful for the business and based on clean, reliable data.