Create a dashboard in Power BI for Claire that reflects all relevant Key Performance Indicators (KPIs) and metrics in the dataset. Get creative!

Possible KPIs include (to get you started, but not limited to):

* Overall customer satisfaction
* Overall calls answered/abandoned
* Calls by time
* Average speed of answer
* Agent’s performance quadrant -> average handle time (talk duration) vs calls answered

Steps to Set Up the Power BI Dashboard:

1. Import Data into Power BI:

Go to Home → Get Data → Text/CSV (if you're working with a CSV file) or Excel (if using an Excel file).

Select the file containing the call data.

2. Data Transformation Using Power Query Editor:

Once the data is imported:

Open Power Query Editor by clicking on Transform Data.

Ensure the data types for each column are correct. For instance:

2.1. Date and Time should be in date/time format.

Steps to Combine Date and Time into DateTime:

Open Power Query Editor:

## Task 1: Combine Date and Time into DateTime Format

1. Open Power Query Editor:  
   * In Power BI, click on Transform Data to open Power Query Editor.
2. Select the Table:  
   * From the Queries pane on the left, select the table containing the Date and Time columns.
3. Navigate to Add Column Tab:  
   * Click on the Add Column tab.
4. Create a Custom Column:  
   * Click on Custom Column.
5. Enter the Formula:  
   s

In the Custom Column dialog box, enter the following formula:  
  
= DateTime.FromText(Text.From([Date]) & " " & Time.ToText([Time], "hh:mm:ss tt"))

* + Click OK.

1. Rename the Column:  
   * Rename the new column to something meaningful, such as DateTimeCombined.
2. Verify Data Type:  
   * Ensure the new column is in Date/Time format. If not:
     + Click on the Data Type dropdown.
     + Select Date/Time.
3. Close & Apply:  
   * Click on Close & Apply to save changes and return to Power BI.

In Power BI, click on Transform Data to open the Power Query Editor.

Select the Date and Time Columns:

Ensure you have columns in the Date and Time formats that you want to combine.

Add a Custom Column:

Go to the Add Column tab in the Power Query Editor.

Click on Custom Column.

Combine Date and Time:

In the Custom Column dialog, use the following formula to combine the Date and Time columns:

s

m

DateTime.FromText(Text.From([Date]) & " " & Time.ToText([Time], "hh:mm:ss tt"))

Explanation:

Text.From([Date]): Converts the Date column into text.

Time.ToText([Time], "hh:mm:ss tt"): Converts the Time column into a formatted text string (12-hour format with AM/PM).

& " " &: Concatenates the date and time text with a space in between.

DateTime.FromText(...): Converts the concatenated text back into a DateTime value.

Check for Errors:

Ensure there are no errors in the new column. The new column should now contain valid DateTime values.

Set Data Type:

You may need to set the Data Type of the new column to Date/Time. To do this:

Right-click the new custom column header.

Select Change Type and then choose Date/Time.

2.2. Speed of answer in seconds and AvgTalkDuration should be in numeric format (ensure any text values like "N/A" or empty fields are handled properly).

## Task 2: Convert Speed of Answer and AvgTalkDuration to Numeric Format

1. Select the Table:  
   * In Power Query Editor, select the table containing Speed of Answer and AvgTalkDuration columns.
2. Handle Non-Numeric Values (e.g., "N/A", Empty Fields):  
   * Click on the Transform tab.
   * Select Replace Values:
     + Find Value: Enter "N/A"
     + Replace With: Enter "0"
     + Click OK.
   * Repeat the process for empty fields by:
     + Selecting Replace Values again.
     + Find Value: Leave it empty.
     + Replace With: Enter "0".
3. Change Data Type:  
   * Select both columns (Speed of Answer and AvgTalkDuration).
   * Click on the Data Type dropdown.
   * Select Decimal Number.
4. Verify & Apply Changes:  
   * Ensure the columns are correctly formatted.
   * Click Close & Apply to save changes and return to Power BI.

3. Data Model and Relationships:

If you're working with multiple tables, make sure they are related correctly (e.g., Agent Table, Call Log Table).

4. KPIs and Visuals:

Total Calls Answered and Abandoned:

Create a measure for "Answered Calls" by counting rows where "Answered" is "Y".

Similarly, create a measure for "Abandoned Calls" by counting rows where "Answered" is "N".

Visual: Use a Card visualization to display these totals.

Speed of Answer:

Create a measure to calculate the average of the "Speed of answer in seconds" column.

Visual: Use a Card or Gauge to represent the average speed of answer.

Average Talk Duration:

Create a measure to calculate the average talk time. Ensure that "AvgTalkDuration" is in seconds, or convert it into a more readable format.

Visual: Use a Card or Gauge for this KPI.

Customer Satisfaction:

Create a measure to calculate the average satisfaction rating.

Visual: Use a Card or Bar Chart to represent this metric.

Calls by Topic:

Create a Bar Chart to represent the number of calls for each "Topic". This will give you insight into the distribution of calls across different topics (Contract related, Technical Support, etc.).

Agent Performance Quadrant:

This will involve plotting Average Talk Duration vs. Total Calls Answered for each agent.

Visual: Use a Scatter Chart. Plot the "Average Talk Duration" on the x-axis and "Total Calls Answered" on the y-axis. Use different colors or data labels for agents.

Satisfaction by Agent:

Create a measure to calculate the average satisfaction rating for each agent.

Visual: Use a Bar Chart or Column Chart to represent the average satisfaction score by agent.

5. Filters and Slicers:

Use Slicers to allow users to filter by:

Agent Name

Date Range

Topic (Contract, Payment, Technical Support, etc.)

6. Styling and Layout:

Keep the dashboard clean with well-aligned visuals.

Use a mix of Cards for individual metrics and Charts for trend and comparison insights.

Apply color coding (e.g., red for low satisfaction, green for high satisfaction) to highlight important trends.

Example of Visuals and Layout:

Header Section:

Display Total Calls Answered and Total Calls Abandoned in Cards.

KPI Section:

Show Speed of Answer and Average Talk Duration in Cards or Gauges.

Show Customer Satisfaction (average satisfaction rating) in a Card.

Trend Section:

Create a Line Chart for Calls by Time to show how the number of calls fluctuates over time (daily, hourly).

Performance Analysis:

Use a Scatter Plot to display the Agent Performance Quadrant showing Average Talk Duration vs. Total Calls Answered.

Topic Analysis:

Use a Stacked Bar Chart to display Calls by Topic to show the distribution of call types.

Agent Comparison:

Use a Bar Chart to display Satisfaction by Agent.

Example Power BI DAX Measures:

Total Answered Calls:

Answered Calls = COUNTROWS(FILTER('Calls', 'Calls'[Answered] = "Y"))

Total Abandoned Calls:

Abandoned Calls = COUNTROWS(FILTER('Calls', 'Calls'[Answered] = "N"))

Average Speed of Answer:

Avg Speed of Answer = AVERAGE('Calls'[Speed of answer in seconds])

Average Talk Duration:

Avg Talk Duration = AVERAGE('Calls'[AvgTalkDuration])

Average Satisfaction Rating:

Avg Satisfaction = AVERAGE('Calls'[Satisfaction rating])

Once you've created the visuals and added the necessary interactivity, you will have a powerful dashboard that Claire can use to get insights into customer service operations and agent performance.