

# Download the fact\_rhonda\_manufacturing.csv and create a dashboard in Power BI in which you have the following -

## KPIs:

How many bonet, front bumper, rear bumper and hoods were submitted for inspection?

How many bonet, front bumper, rear bumper and hoods were Accepted?

How many bonet, front bumper, rear bumper and hoods were Rejected?

## Parameterized Line Chart:

Create a line chart with a parameter that allows the user to toggle between bonet, front bumper, rear bumper and hoods.

Show the trend of submissions, Accepted, and Rejected over time.

## Calendar Visual:

Design a calendar view to display daily counts of:

Total submissions.

Accepted parts.

Rejected parts.

Use colour coding to differentiate between Accepted and Rejected counts.

Okay, I will generate a detailed plan on how to create the requested Power BI dashboard using the provided CSV data.

## Power BI Dashboard Creation Plan

Here's a step-by-step plan to create the Power BI dashboard, covering data import, transformation, KPI creation, chart implementation, calendar visual design, and parameterization.

### 1. Data Import and Preparation

- **Download the Data:** Download the fact\_rhonda\_manufacturing.csv file.
- **Open Power BI Desktop:** Launch Power BI Desktop.
- **Import CSV Data:**
  - Click on "Get Data" and select "Text/CSV".
  - Browse to the downloaded fact\_rhonda\_manufacturing.csv file and open it.
  - Power BI will preview the data. Ensure the delimiter is set correctly (comma).
  - Click "Transform Data" to open the Power Query Editor.
- **Data Transformation (Power Query Editor):**

- **Date Conversion:**
  - Select the "Date" column.
  - Change the data type to "Date" if it's not already. Ensure the format is consistent (e.g., DD-MM-YYYY). If not, use "Using Locale..." to specify the correct locale and format.
- **Status Columns:** No transformation should be required in case status columns include values like "Approved" and "Rejected".
- **Rename Columns:** Rename columns for better readability (e.g., "Bonnet ID" to "BonnetID", "Bonnet Status" to "BonnetStatus").
- **Add Custom Columns:** Create new columns to identify each part type (Bonnet, Hood, Front Bumper, Rear Bumper) for flexible analysis.
  - Go to "Add Column" → "Custom Column".
  - **Bonnet:** `if [Bonnet ID] <> null then "Bonnet" else null`
  - **Hood:** `if [Hood ID] <> null then "Hood" else null`
  - **Front Bumper:** `if [Front Bumper ID] <> null then "Front Bumper" else null`
  - **Rear Bumper:** `if [Rear Bumper ID] <> null then "Rear Bumper" else null`
- **Merge Columns:** Create a new column called "Part Type" to combine all part types.
  - Select all newly created part type columns ("Bonnet", "Hood", "Front Bumper", "Rear Bumper").
  - Go to "Transform" → "Merge Columns".
  - Select "Space" as separator (or "None" if you prefer).
  - Name the new column "Part Type".
  - Replace "null" values in the merged column with blank.
- **Trim spaces:** Select "Part Type" column and click Transform → Format → Trim to remove any leading or trailing spaces.
- **Remove Unnecessary Columns:** Remove the individual ID columns ("Bonnet ID", "Hood ID", "Front Bumper ID", "Rear Bumper ID").
- **Close & Apply:** Click "Close & Apply" to load the transformed data into Power BI Desktop.

## 2. KPI Creation

- **Total Submissions:**
  - Create a measure:
    - Right-click on the table name in the "Fields" pane and select "New Measure".
    - Measure: `Total Submissions = COUNTROWS('your_table_name')`
- **Accepted Parts:**
  - Create a measure for each part type:

- Accepted Bonnets = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[BonnetStatus] = "Approved")
- Accepted Hoods = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[HoodStatus] = "Approved")
- Accepted Front Bumpers = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Front Bumper Status] = "Approved")
- Accepted Rear Bumpers = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Rear Bumper Status] = "Approved")

- **Rejected Parts:**

- Create a measure for each part type:
  - Rejected Bonnets = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[BonnetStatus] = "Rejected")
  - Rejected Hoods = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[HoodStatus] = "Rejected")
  - Rejected Front Bumpers = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Front Bumper Status] = "Rejected")
  - Rejected Rear Bumpers = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Rear Bumper Status] = "Rejected")

- **Card Visuals:**

- Drag a "Card" visual onto the canvas for each measure.
- Format the card visuals as desired.

### 3. Parameterized Line Chart

- **Create Parameter:**

- Go to Modeling → New Parameter → Field Parameter
- Parameter Name: "Part Type Parameter"
- Add the "Part Type" column in the "Fields" section
- Check the "Add slicer to this page" box

- **Create Measures for Accepted/Rejected Counts by Date:**

- Create the following measures:
  - Accepted Parts Over Time = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Overall Status] = "Accepted")
  - Rejected Parts Over Time = CALCULATE(COUNTROWS('your\_table\_name'), 'your\_table\_name'[Overall Status] = "Rejected")
  - Total Submissions Over Time = COUNTROWS('your\_table\_name')

- **Create Line Chart:**

- Drag a "Line Chart" visual onto the canvas.
- X-axis: Drag the "Date" field. Set the hierarchy to Year/Month/Day or as desired.

- Y-axis: Drag the measures: "Accepted Parts Over Time", "Rejected Parts Over Time", and "Total Submissions Over Time".
- Slicer: Use the created "Part Type Parameter" slicer to filter the chart.
- **Format Chart:** Customize the chart's appearance (colors, labels, tooltips) for clarity.

#### 4. Calendar Visual

- **Download Calendar by MAQ Software:** Download the "Calendar by MAQ Software" custom visual from AppSource marketplace.
- **Add the Calendar visual to your report.**
- **Configure the Visual:**
  - Date: Drag the "Date" field to the "Date" field well.
  - Values:
    - Drag the "Total Submissions" measure to the "Values" field well.
    - Drag the "Accepted Parts" measure to the "Values" field well. (You might need to create a combined measure for total Accepted Parts across all types, if you didn't already).
    - Drag the "Rejected Parts" measure to the "Values" field well. (Same as above, might need a combined measure).
- **Color Coding:**
  - In the "Format" pane of the Calendar visual, go to "Color Coding" or similar settings.
  - Set colors for "Accepted Parts" and "Rejected Parts" to differentiate them visually. For example, green for Accepted and red for Rejected.
- **Customize:** Adjust the calendar's appearance (font sizes, colors, day names) as needed.

#### 5. Dashboard Layout and Formatting

- Arrange the visuals on the canvas in a logical and visually appealing manner.
- Use titles and labels to clearly identify each visual and its purpose.
- Apply a consistent color scheme and formatting style throughout the dashboard.
- Add text boxes to provide context or explanations as needed.

#### 6. Testing and Refinement

- Test the dashboard thoroughly by interacting with the slicers and filters.
- Verify that the KPIs and charts display the correct data.
- Refine the layout and formatting based on user feedback.

#### Important Considerations:

- **Performance:** If the dataset is large, consider optimizing the data model and measures for performance.
- **Error Handling:** Implement error handling to gracefully handle any unexpected data issues.

- **Accessibility:** Design the dashboard with accessibility in mind, ensuring it can be used by people with disabilities.

This plan provides a comprehensive guide to creating the Power BI dashboard. Follow these steps, and you'll have an interactive and informative tool for analyzing manufacturing data.

