Sales Data Analytics Project for Axon

Project Description:

This project involved the analysis of sales data from the Axon Company's MySQL database to extract valuable insights for informed decision-making. The objective was to understand sales performance, customer behavior, and product trends.

Executive Summary:

The majority of customers are from the USA.

The top-selling product is the '1992 Ferrari 360 Spider Red.'

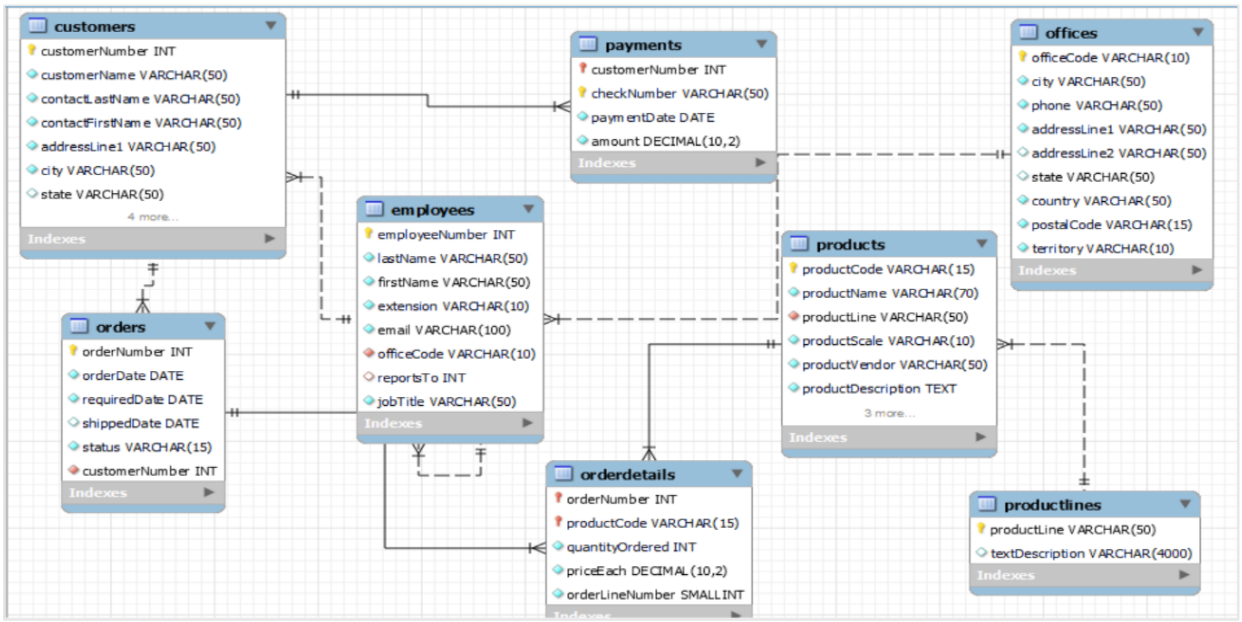
Gerard Hernandez is the highest sales contributor with around 1.1 million in sales.

The average order value is approximately 27.1 thousand dollars.

Total sales revenue is around 8.85 million dollars.

- **Data Collection and Cleaning:**
  - **Data Source:**
    https://drive.google.com/file/d/1OB_iGw6vVS5KS7QwiwVChbeTfR4WvUy3/view?usp=share_link

Engaging in reverse engineering as a means to gain a deeper comprehension of the data, unravelling its underlying structures and relationships for a more insightful analysis.



- **Data Cleaning:**

  Conducting a comprehensive assessment to identify and flag any duplicate values within the table.

```
SELECT customerNumber, COUNT(customerNumber) AS duplicate_count
FROM customers
GROUP BY customerNumber
HAVING COUNT(customerNumber) > 1;
```

  The absence of duplicate values within my dataset assures that each piece of data is distinct, simplifying data analysis and ensuring the integrity of my dataset for further processing and decision-making.

  Conducting an evaluation of NULL values within the dataset to comprehensively analyze their potential impact on subsequent analytical processes and decision-making, including an assessment of how the presence of NULL values may influence the validity and reliability of the results.

```
SELECT * FROM customers WHERE customerNumber IS NULL;
```

  Finding that more than 70% of some columns have missing data suggests that these columns may not provide valuable information for my analysis. Therefore, I may choose to ignore or give less importance to these columns when conducting my analysis.

```
ALTER TABLE orders DROP COLUMN Comments ;
```

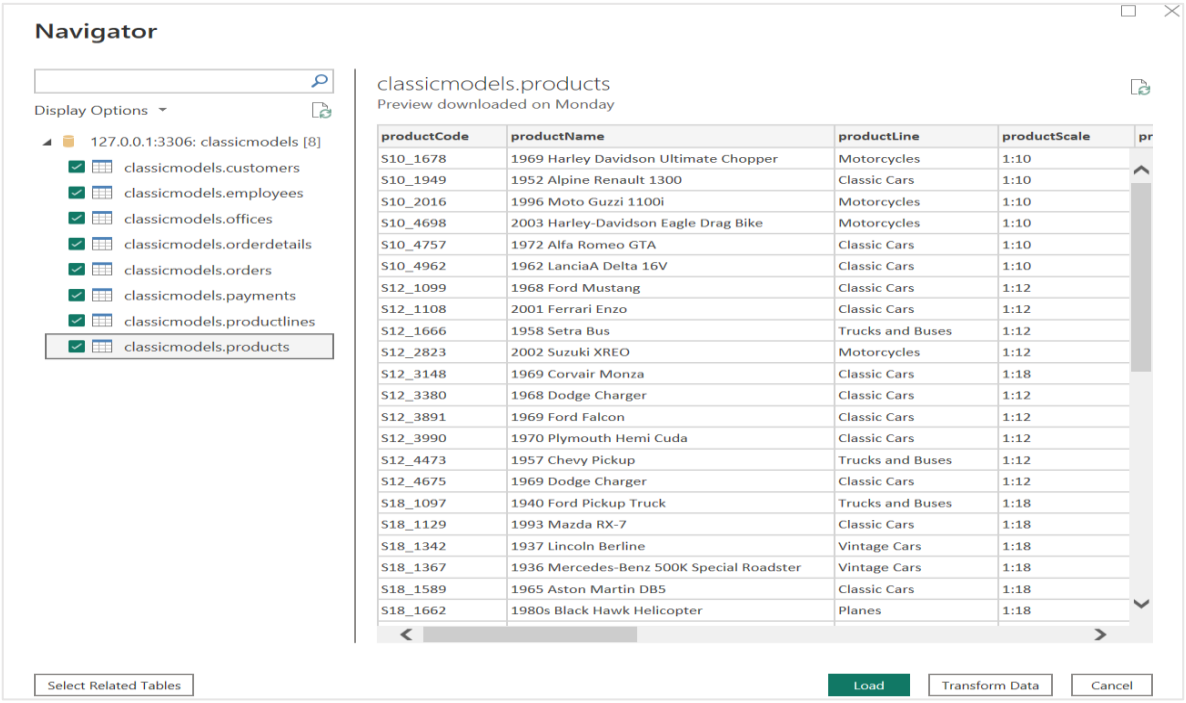
  Dropping the following columns:

  'Comments' from the 'Orders' Table.
  'htmDescription' from the 'Product Line' Table.
  'image' from the 'ProductLine' Table.

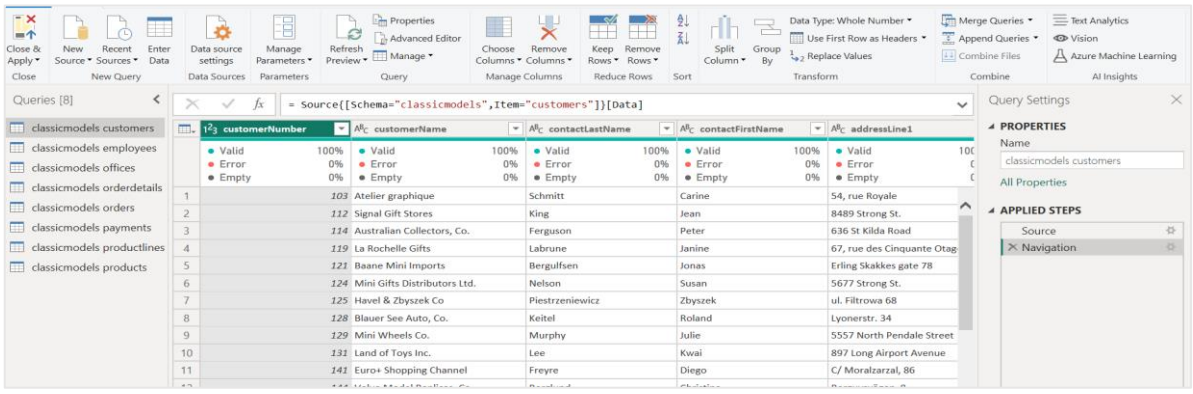
- **Data Loading**

  1. Open Power BI Desktop
  2. Click on "Get Data"
  3. Select "Database" Category
  4. Choose "MySQL Database"

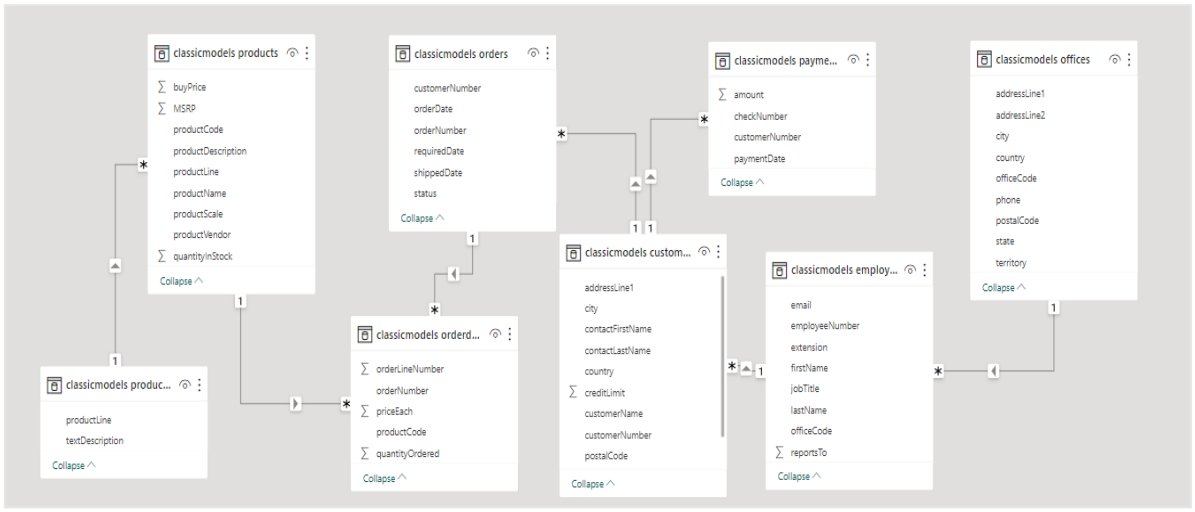
5. Enter Connection Details
6. Click "OK"
7. Choose Data Tables
8. Transform Data (Optional)
9. Load Data



I utilize the "Transform Data" feature to delve deeper into the data, gaining a more comprehensive understanding of its content and structure. This allows me to review and potentially modify the data format for better analysis.



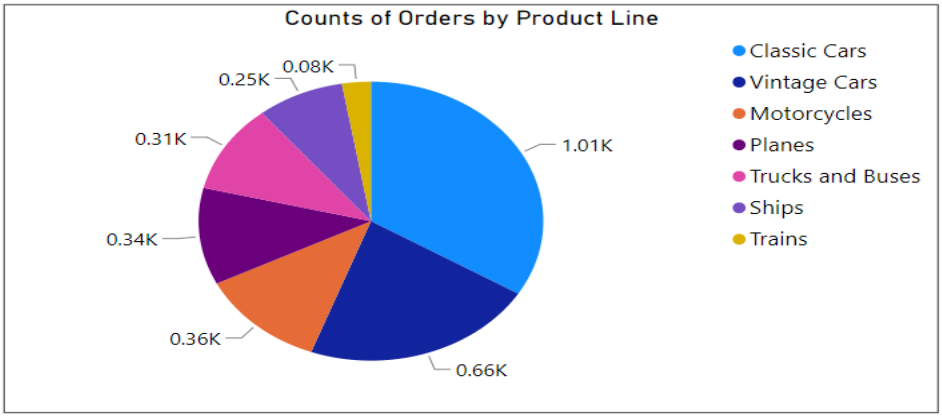
Using Power BI's data modeling tools to take a closer look at how different tables in your dataset are connected and making any necessary adjustments to those connections for better analysis.



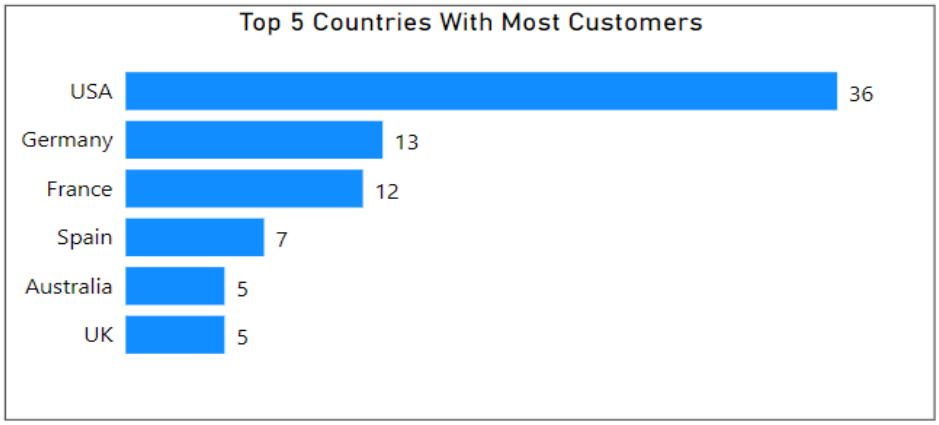
- **Designing Dashboards**

I am selecting the most fitting data visualizations, such as bar charts, line charts, and pie charts, according to the characteristics of the data I am working with and the specific insights I intend to convey. These visuals serve as powerful tools to help me effectively communicate the information and insights I want to share.

I am using a pie chart to show how many orders are in each product category. This chart makes it easy to see which product categories have more or fewer orders.

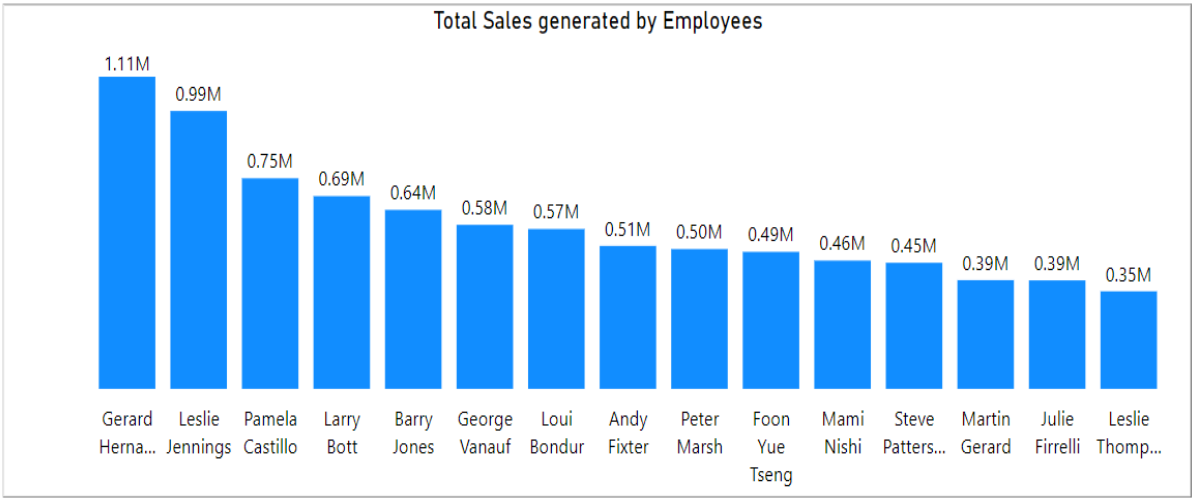


I am setting up a Horizontal bar chart to display the countries with the highest number of customers. To keep it concise and show only the top 5 countries, I'm using the "TOP N" filter option from the Filter section. This way, I can quickly identify and display the countries that have the most customers in my dataset.



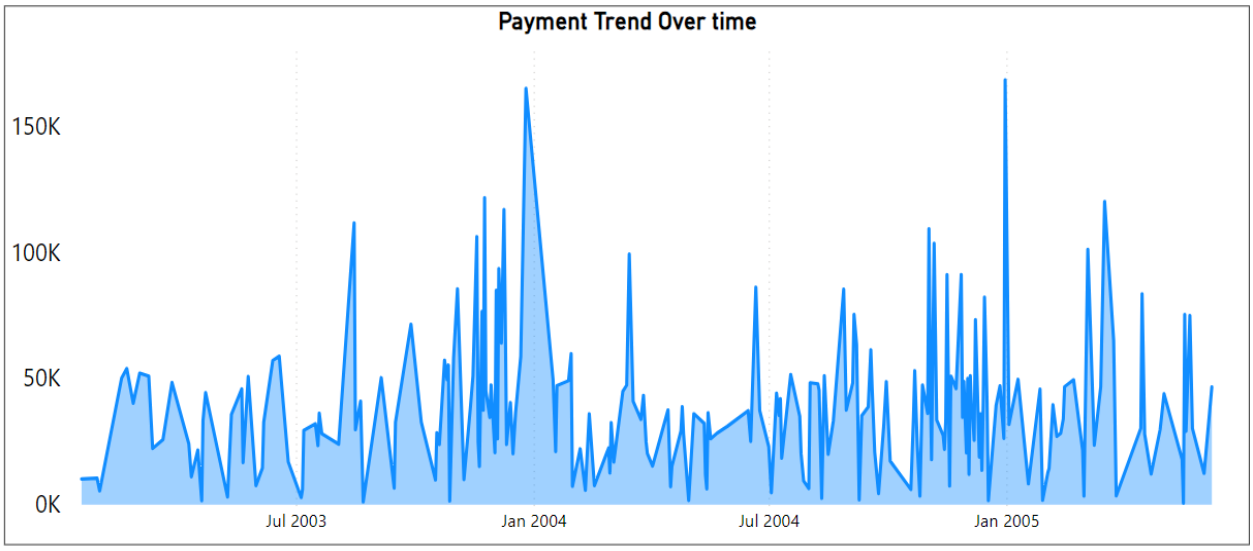
For my next chart, I'm utilizing a DAX query to create a new column that will display the full names of employees. This additional column will provide a more informative and readable representation of employee names in my visualizations.

```
Full Name = 'classicmodels employees'[firstName] & " " & 'classicmodels employees'[lastName]
```

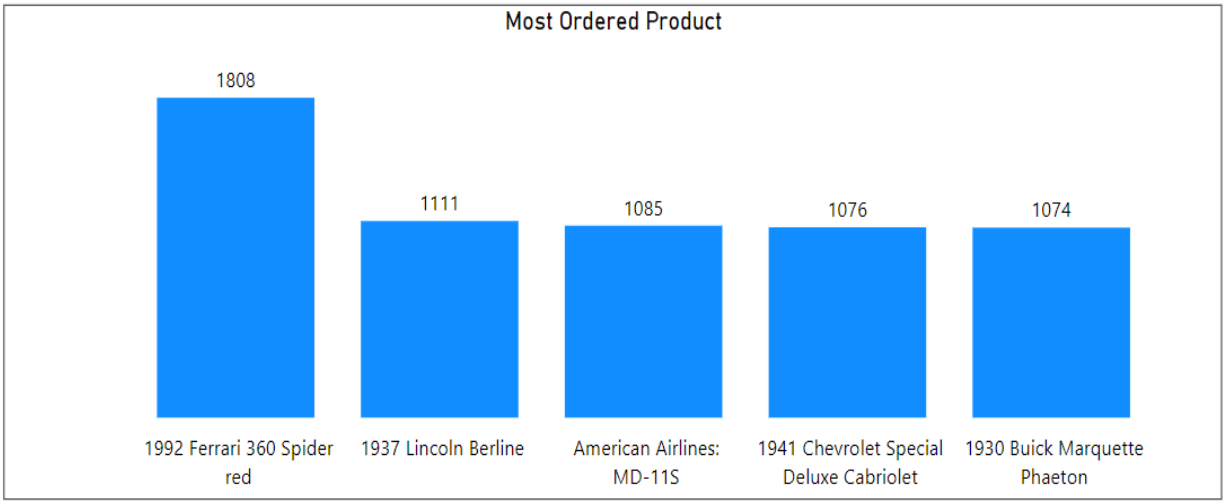


I am achieving my desired outcome by creating new measures to generate informative cards or visuals. These measures allow me to display specific calculated values or insights that are important for my analysis, enhancing the overall understanding of my data.

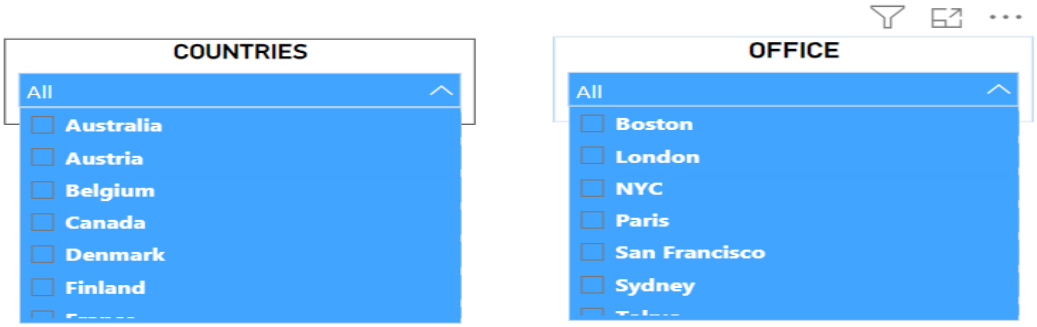
Analyzing the trends in payment behaviour and patterns over a specific time.



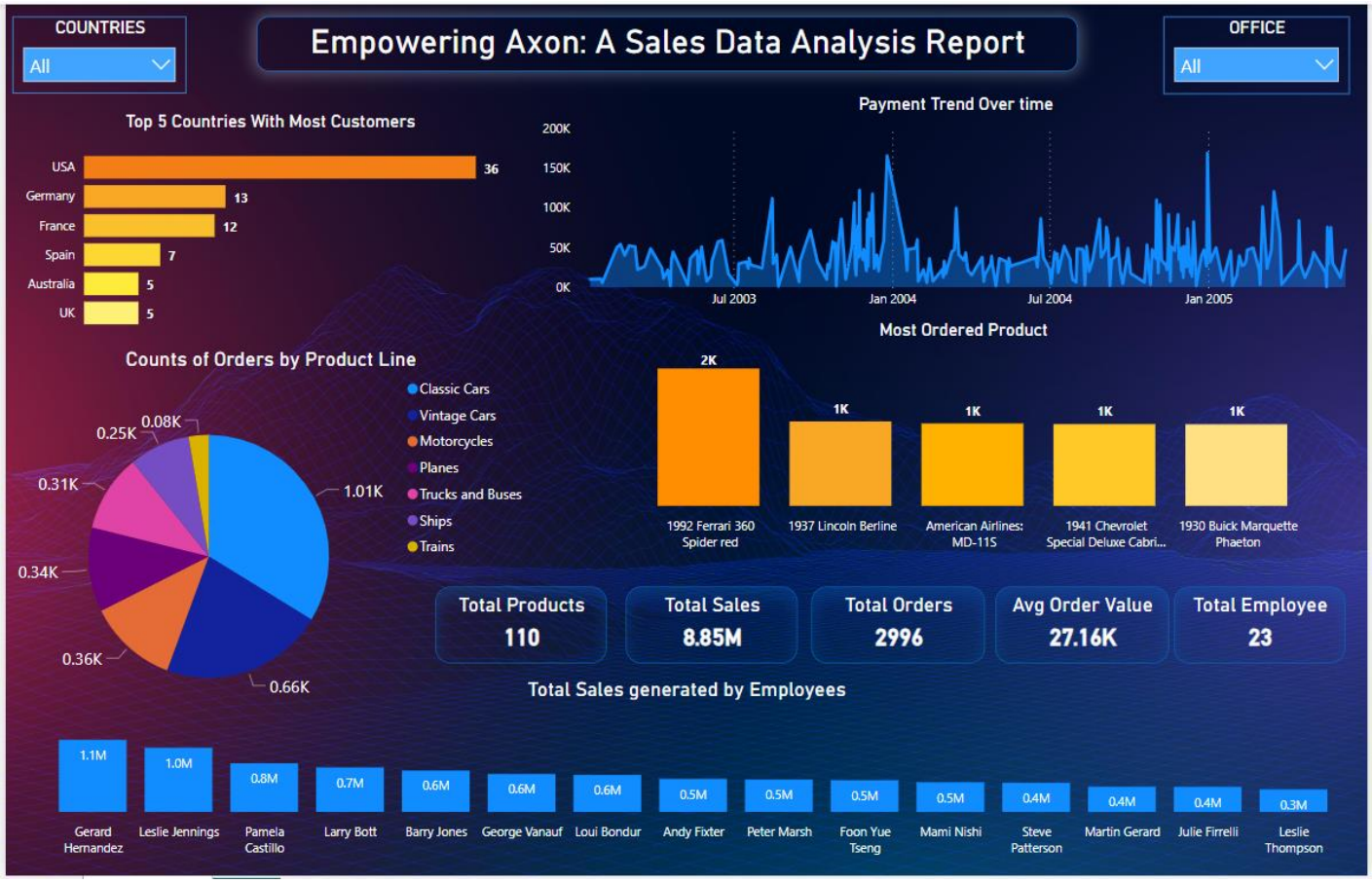
Constructing a bar chart as a visual tool to comprehensively assess and identify the most frequently purchased or commonly ordered products in the dataset or context of analysis.



By utilizing slicers, we can obtain the specific results we want from our data.



Through thorough data analysis, I have constructed the following dashboard.



For More Details:

Click on: [GitHub]

"I would like to express my gratitude to Odin School for providing me with the opportunity to work on this project. This experience has been invaluable in enhancing my skills and knowledge in data analytics. Thank you for your guidance and support throughout the project."

[Akash Katad]