



Power BI Report for Car Sales Analysis





UNLOCKING INSIGHTS WITH INTERACTIVE DASHBOARD

This report is designed to provide key insights and data visualizations based on the provided dataset.

In this presentation, I will walk you through the various components of the report, including the calculations and visuals used to derive meaningful insights. We will explore the car counts by brand, the latest car purchase dates, average salaries by country, and much more.

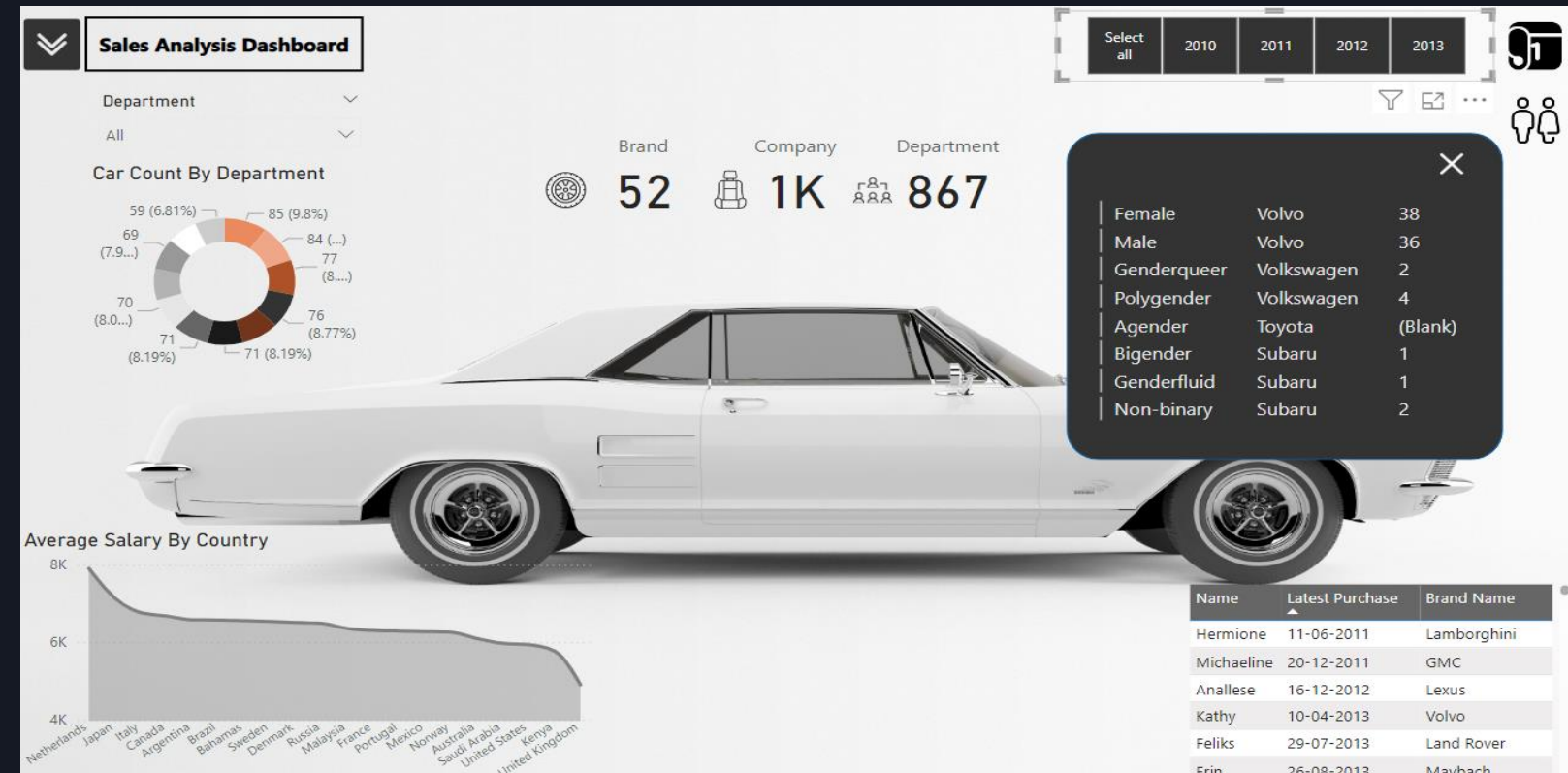
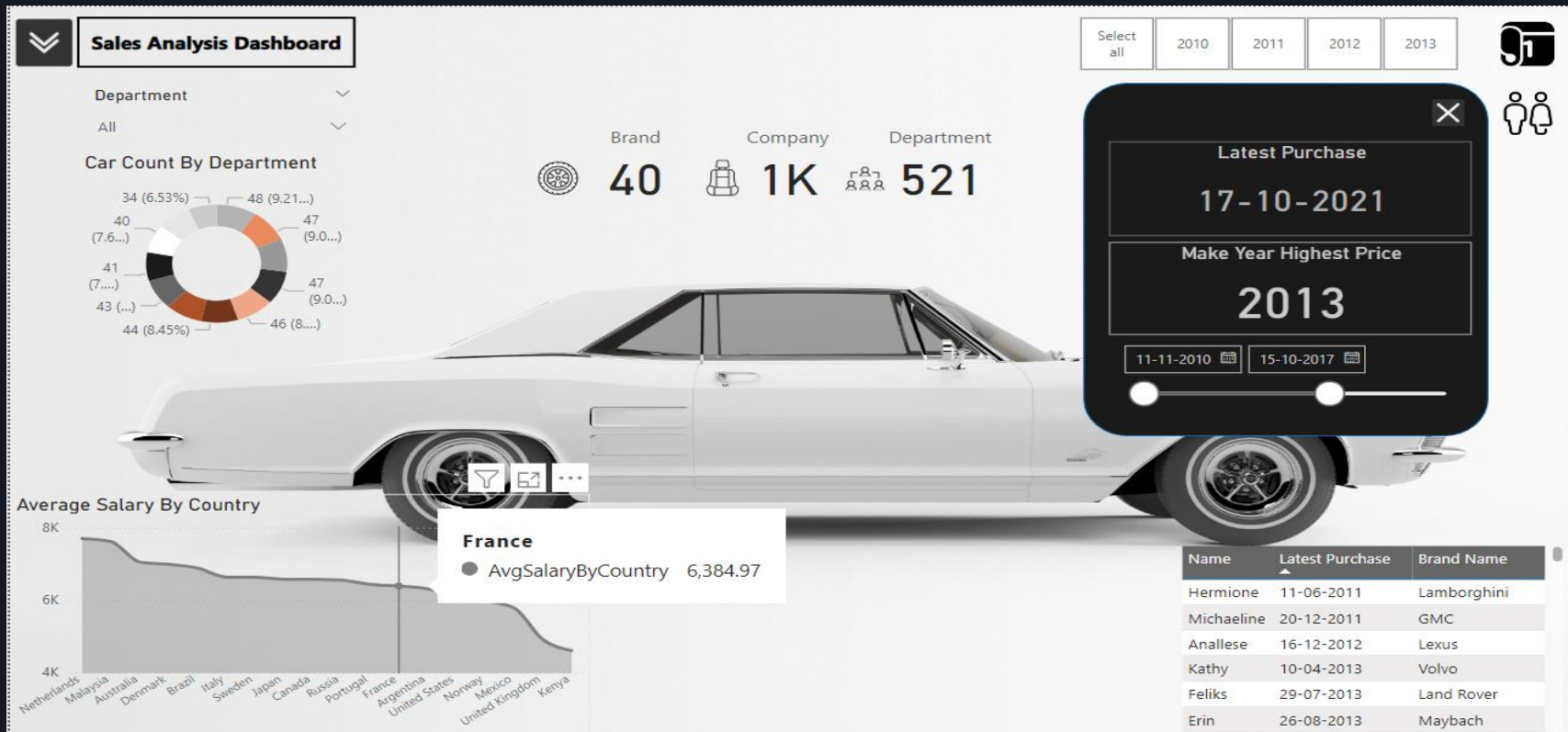
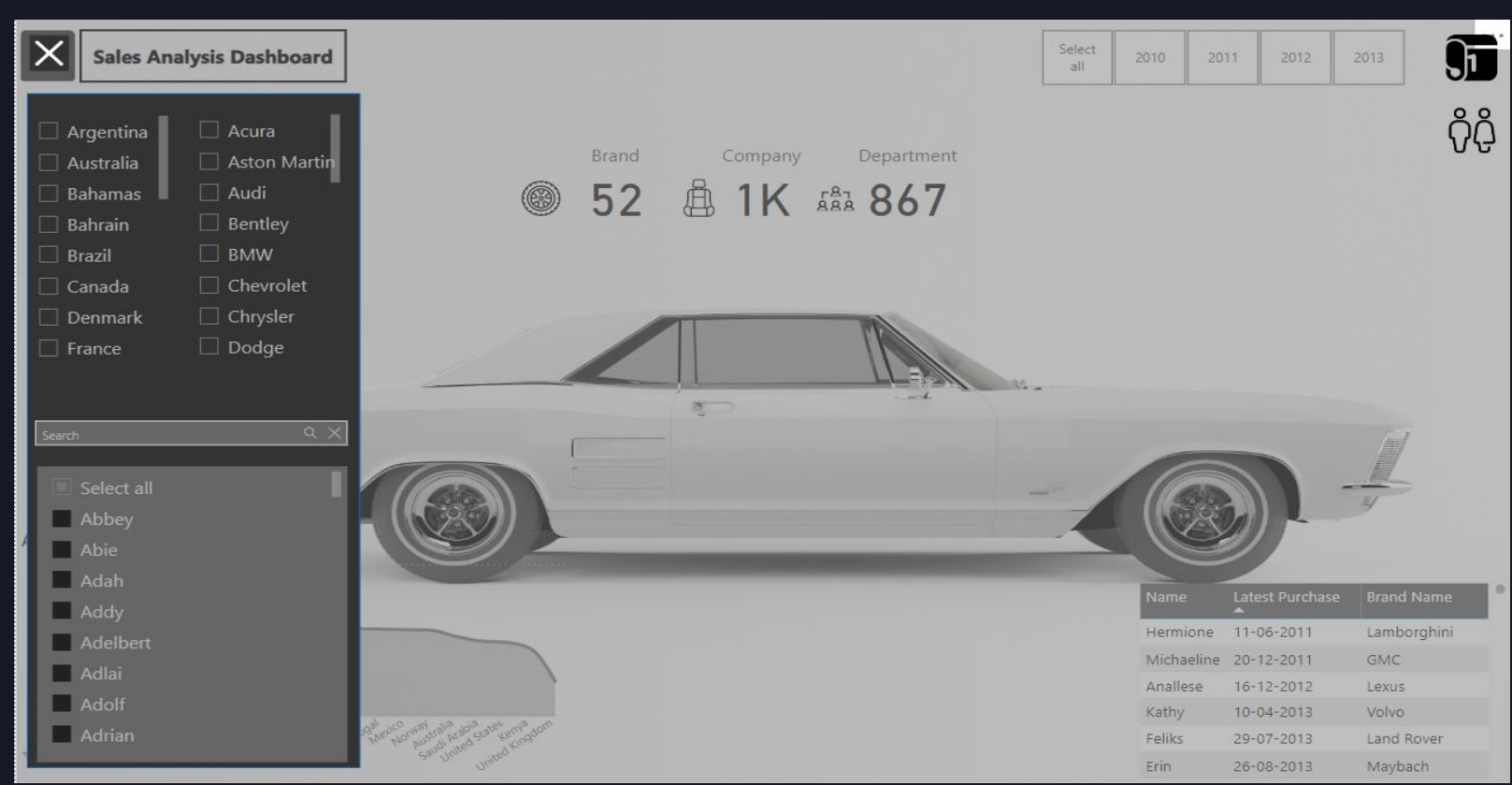
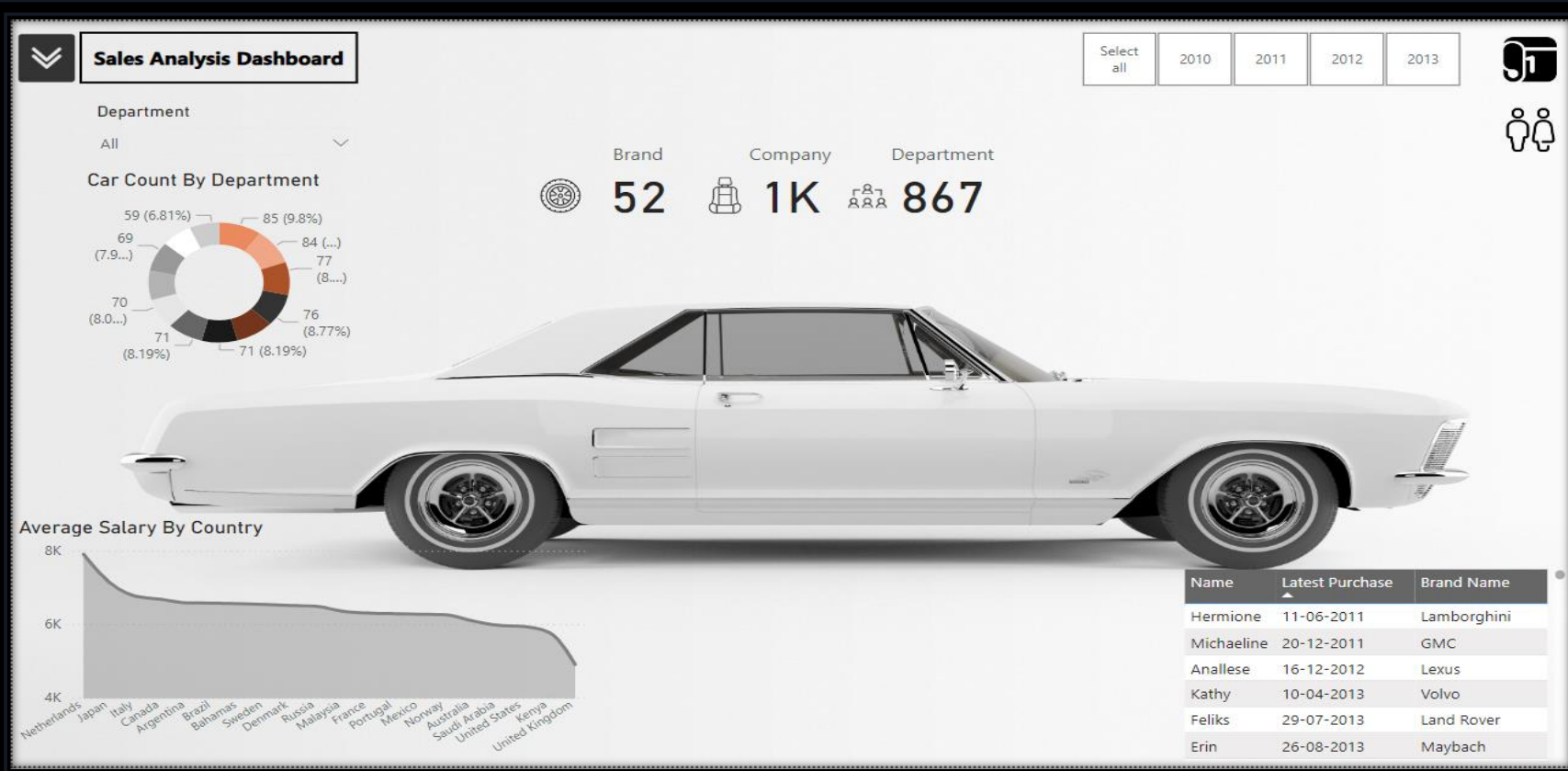
The goal of this report is not only to answer the specific questions posed in the assessment but also to present the data in a clear, visually appealing, and easy-to-understand manner. I have also included additional insights to provide a comprehensive view of the dataset.

ABOUT OUR COMPANY

INI8 Labs Pvt Ltd is a forward-thinking technology company located in the heart of Bengaluru, Karnataka. Based in the Hustle Hub Tech Park in HSR Layout, the company is at the forefront of technological innovation and solutions. INI8 Labs specializes in providing cutting-edge tech solutions tailored to meet the unique needs of various industries. Their focus on leveraging data, analytics, and modern tech tools enables businesses to thrive in an increasingly digital world.



SALES DASHBOARD





DATA PREPARATIO

01 Data Cleaning

- Missing Values:** Checked for and handled missing values across all datasets. For numerical fields, imputed with the mean or median as appropriate. For categorical fields, used the mode or created a new category for missing data.
- Data Types:** Ensured that each column has the correct data type ,duplicate records to ensure data accuracy.
- Standardization:** Standardized the format of fields such as dates, names, and categorical values for consistency across the datasets.

02 DATA MODELING

- Relationships:** Established relationships between the tables:
 - Buyers Detail linked to Cars Detail via BuyerID.
 - Company linked to Cars Detail via CompanyID.
- Keys:** Ensured that primary keys and foreign keys are correctly defined and used to maintain data integrity.
- Calculated Columns:** Added necessary calculated columns, such as the latest car bought date for each buyer

03 TOOL USED

- PowerBI:** For data import, transformation, modeling, and visualization.
- Power Query Editor:** For data cleaning and transformation.





Date Table and Slicer



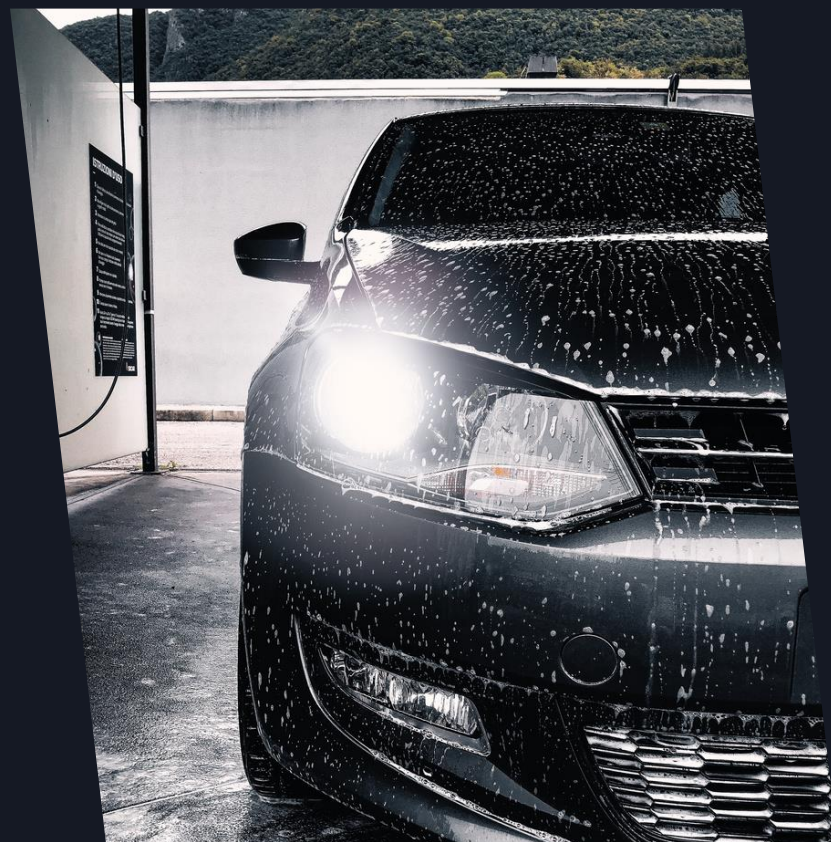
01

Created a table in which I preferred adding date function wisely where, I extracted the year, month, day, quarter, month name and year month separately by add info in individual columns.

```
DateTable =  
ADDCOLUMNS (  
    CALENDAR (MIN('Buyer_Details'[carboughtdate]),  
    MAX('Buyer_Details'[carboughtdate])),  
    "Year", YEAR([Date]),  
    "Month", MONTH([Date]),  
    "Day", DAY([Date]),  
    "Quarter", QUARTER([Date]),  
    "MonthName", FORMAT([Date], "MMMM"),  
    "YearMonth", FORMAT([Date], "YYYY-MM")
```

02

Added two slicer in the dashboard where, one slicer is indicating the date with slider added and another one with year slicer in vertical format shows overall year of car bought .





CAR COUNT BY BRAND/COMPANY/ DEPARTMENT



01

This measure calculates the total number of cars available, grouped by each unique brand.
Measure:

```
CountByBrand = COUNT(Cars[Brand_Name])
```

02

Represents the count of cars associated with each company.
Measure:

```
CarCountByCompany = COUNT(Company[Company_Name])
```

03

Tracks the number of cars based on the purchasing department.
Measure:

```
CarCountByDepartment = COUNT(Buyer_Details[department])
```

04

I have used the card visual to showcase the count of brands/company/department in vertical format.





CALCULATED COLUMN FOR LATEST CAR BOUGHT DATE

01

This measure identifies the most recent purchase date for each individual car in our inventory.

- Dashboard Element: A timeline or a date slicer connected to this measure can visually represent the flow of car purchases over time.

- Benefits: Provides a clear visual cue for identifying trends and periods of high sales activity.

Measure:

LatestPurchase =

```
CALCULATE (  
    MAX('Buyer_Details'[carboughtdate]),  
    FILTER('Buyer_Details', 'Buyer_Details'[car_ID] ='Cars'[Car_ID])
```

Enables tracking of inventory turnover and highlights recent sales trends.





AVERAGE SALARY BY COUNTRY

01

Computes the average salary of buyers across different countries

02

Measures:

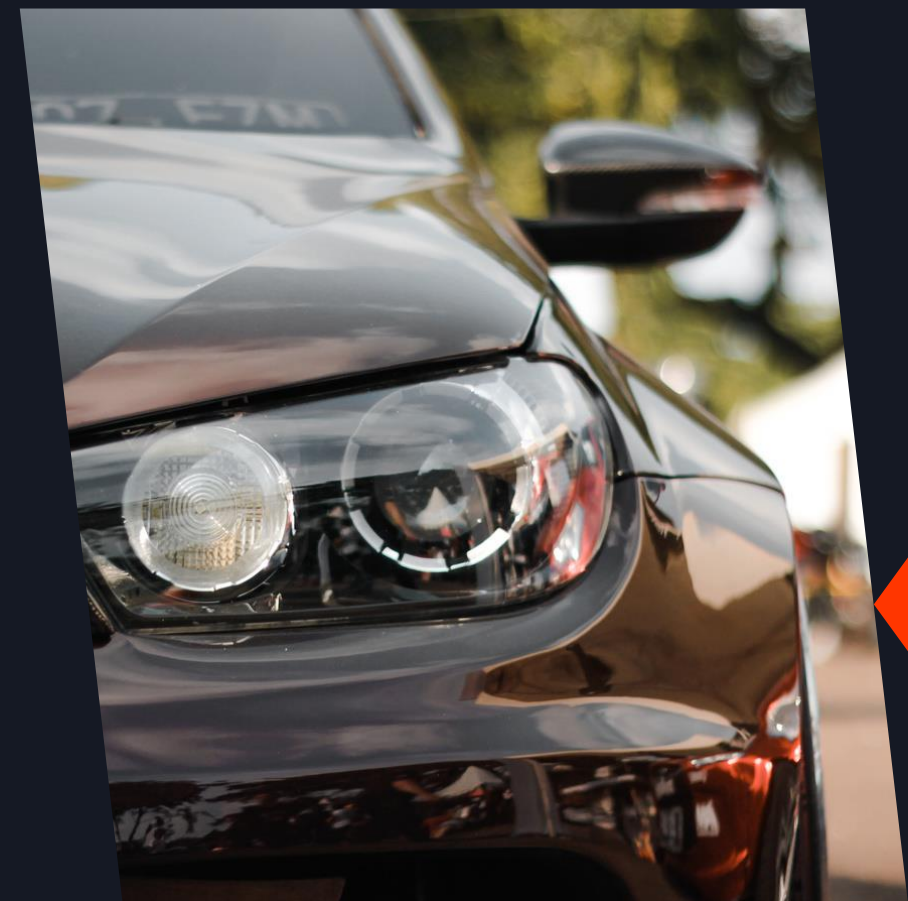
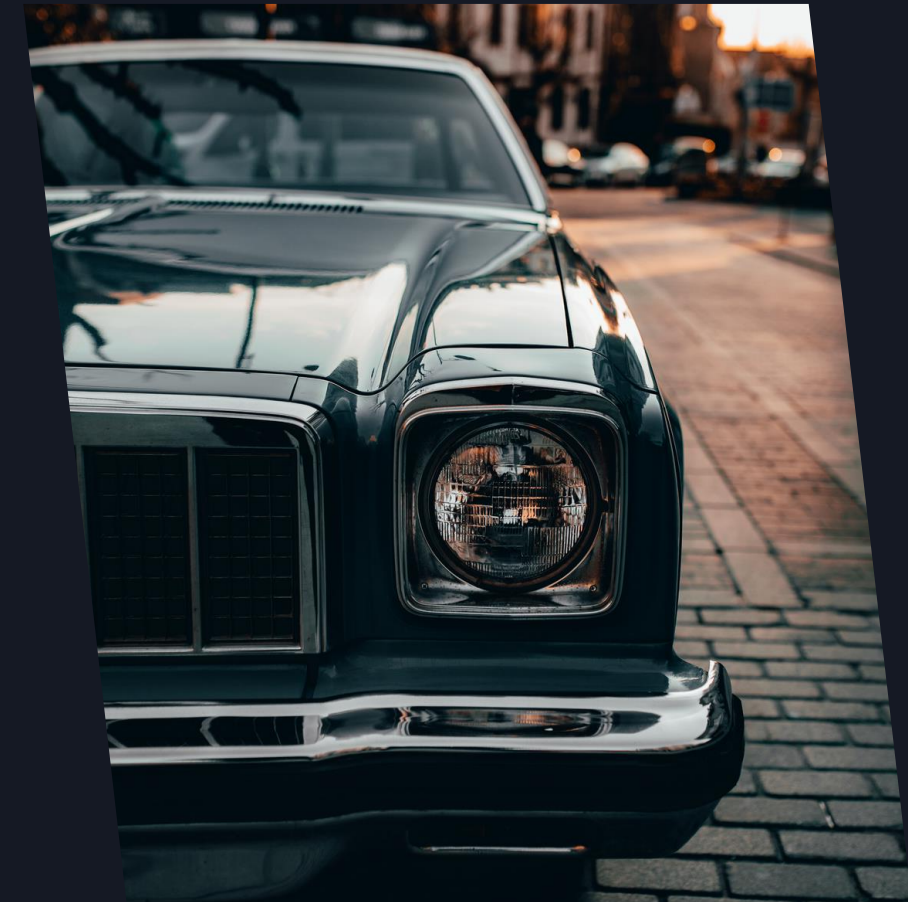
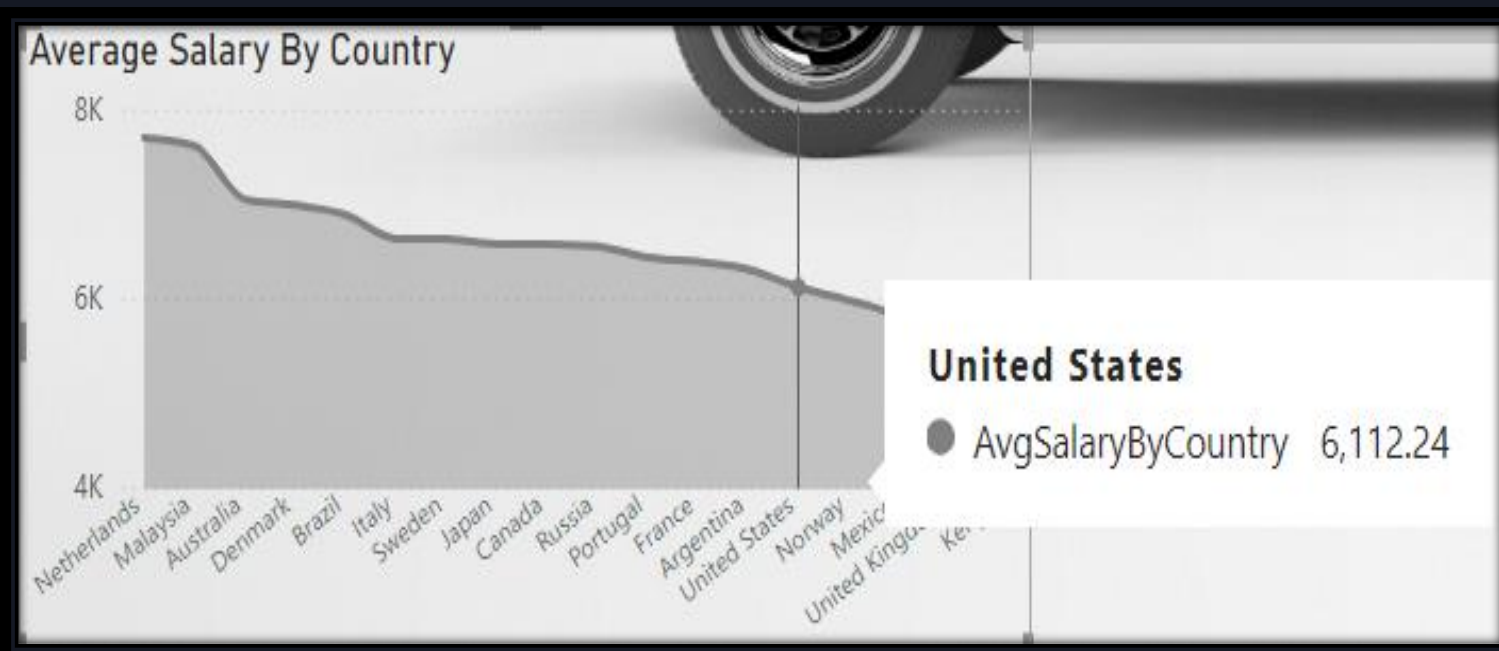
```
AvgSalaryByCountry = AVERAGEX( VALUES(Company[Country]),  
CALCULATE( AVERAGE(Buyer_Details[salary]) ) )
```

03

Took the stacked area chart where on X axis I place Country and on Y-Axis I have place AvgSalaryByCountry.

And by adjusting certain features like data labels or markers to emphasize specific data points, such as the average salary for the United States.

Formats the tooltip to display the average salary when hovering over a data point, as seen in the image.





MAKE YEAR WITH HIGHEST AVERAGE PRICE

This card showcases the year with the highest average price for our car inventory.

Utilizing the 'Make Year' as a filter, we apply a 'Top N' sorting where $N=1$ to isolate the year with the top average price.

Data Field: The 'Price' field is sorted by average, ensuring that the year displayed reflects the peak of our pricing trends.

Analytical Significance

1. Insight: By pinpointing the year with the most valuable inventory, we gain insights into market trends and consumer preferences.
2. Strategic Value: This information aids in pricing strategy adjustments and inventory planning for future years.

Visual Design

1. Dashboard Integration: The card is designed to stand out on the dashboard, immediately drawing attention to the key year of interest.
2. Interactivity: Users can interact with the card to explore further details, such as the models and makes that contributed to the high average price.



MOST POPULAR CAR BRAND BY GENDER

This measure calculates the most preferred car brand for each gender based on the count of purchases.
Measure:

```
MostBrandByGender = VAR BrandGenderCount = SUMMARIZE( Buyer_Details,
Buyer_Details[Gender], Cars[Brand_Name], "BrandCount", [BrandCountByGender] )
VAR MaxBrandCountTable = ADDCOLUMNS( SUMMARIZE( BrandGenderCount,
Buyer_Details[Gender], "MaxCount", MAXX(BrandGenderCount, [BrandCount]) ),
"Brand", MAXX( FILTER(BrandGenderCount, [BrandCount] = [MaxCount]), Cars[Brand_Name]
) )
RETURN MAXX(MaxBrandCountTable, [Brand])
```

- 1. Displays the Multi-Card of most popular car brand for each gender alongside the count of brand names.
- 2. Utility: Helps in understanding customer preferences and tailoring marketing strategies accordingly.

Analytical Insights

- 1. Consumer Behavior: Reveals trends in brand popularity across different genders, providing a deeper understanding of our market segmentation.
- 2. Marketing Strategy: Informs targeted advertising campaigns and promotional offers to align with the preferences of our diverse customer base.

✕

Female	Volvo	38
Male	Volvo	36
Genderqueer	Volkswagen	2
Polygender	Volkswagen	4
Agender	Toyota	(Blank)
Bigender	Subaru	1
Genderfluid	Subaru	1
Non-binary	Subaru	2





THANK YOU

Thank you for your attention and engagement during this presentation. Your insights and questions are invaluable to our continuous improvement and success.

With appreciation, Himanshu K. Chambhare

