

# VEHICLES SALES ANALYSIS

## Introduction:

This report presents an analysis of vehicle sales, addressing key insights extracted from the dataset. The goal is to provide actionable insights and show in visualization charts that will help in driving business growth, improving operational efficiency, and addressing sales challenges

## Business Problems:

1. **Total Sales Performance:** From which cities, product line and other regions the company is gaining more revenue in vehicle sales.
2. **Relation between QTY and Sales:** define that number of quantity is affecting to total sales and their relationship.
3. **Create a dynamic dashboard:** include slicers of years, size, status and product line by changing it affecting overall revenue.
4. **Customer Retention:** Lack of data-driven insights to enhance customer retention and repeat sales

## SQL Query problems and their insights:

# 1. Retrieve the total sales (SALES) grouped by YEAR\_ID and QTR\_ID.

```
select year_id,qtr_id,round(sum(sales),2) as total_sale from sales_data group by year_id,qtr_id;
```

	year_id	qtr_id	total_sale
►	2003	1	445094.69
	2003	2	562365.22
	2003	3	649514.54
	2003	4	1860005.09
	2004	1	833730.68
	2004	2	766260.73
	2004	3	1109396.27
	2004	4	2014774.92
	2005	1	1071992.36
	2005	2	719494.35

# 2. Calculate the average SALES per CUSTOMERNAME for orders from 2003.

```
with cte as (select customername,sales from sales_data where year_id=2003)
select customername,round(avg(sales),2) as avg_sales from cte group by customername;
```

	customername	avg_sales
►	Land of Toys Inc.	3222.97
	Reims Collectables	3790.92
	Lyon Souvenirs	3660.7
	Toys4GrownUps.com	3546.39
	Corporate Gift Ideas Co.	3417.1
	Technics Stores Inc.	3597.84
	Daedalus Designs Imports	3491.02
	Herkku Gifts	3811.09
	Mini Wheels Co.	3394.42
	Baane Mini Imports	3304.51
	Yaku Model Building Co.	4074.5

# 3. Calculate the percentage of total SALES contributed by the top 3 PRODUCTLINEs.

```
with total_sale as(select sum(sales) as sale from sales_data)
select productline,round(sum(sales),2)as total_sale,round((sum(sales)/(select sale from total_sale)*100),2) as per_of_total_sale from sales_data
group by PRODUCTLINE order by per_of_total_sale desc limit 3;
```

	productline	total_sale	per_of_total_sale
▶	Classic Cars	3919615.66	39.07
	Vintage Cars	1903150.84	18.97
	Motorcycles	1166388.34	11.63

# 6. Write a query to find customers who have placed more than 10 orders in total but less than 3 in the last year.

```
WITH customer_orders AS (
  SELECT CUSTOMERNAME,
    COUNT(ORDERNUMBER) AS total_orders,
    SUM(CASE WHEN YEAR_ID = (SELECT MAX(YEAR_ID) FROM sales_data) THEN 1 ELSE 0 END) AS last_year_orders
  FROM sales_data
  GROUP BY CUSTOMERNAME )
SELECT CUSTOMERNAME
FROM customer_orders
WHERE total_orders > 10
AND last_year_orders < 3;
```

	CUSTOMERNAME
▶	Land of Toys Inc.
	Daedalus Designs Imports
	Herkku Gifts
	Mini Wheels Co.
	Australian Collectors, Co.
	Vitachrome Inc.
	Marta's Replicas Co.
	Baane Mini Imports
	Diecast Classics Inc.
	Volvo Model Replicas, Co
	Swedish Auto Designs Ltd.

# 5. Identify the product (PRODUCTCODE) that had the highest total sales growth between 2003 and 2004.

```
SELECT
  productcode, ROUND(SUM(sales)) AS total_sale
FROM
  sales_data
WHERE
  year_id BETWEEN 2003 AND 2004
GROUP BY productcode
ORDER BY total_sale DESC
LIMIT 1;
```

	productcode	total_sale
▶	S18_3232	233051

# Power BI analysis

## 1. Sales Performance Analysis

- **Question:** What are the total sales by year? Are there any seasonal trends in the sales data?
- **Visualization:** Line chart or bar chart showing total sales over time (yearly).

## 2. Top-Selling Products

- **Question:** Which products generate the highest revenue? Are there any products that consistently underperform?
- **Visualization:** Bar chart or tree map highlighting product sales performance.

## 3. Regional Sales Distribution

- **Question:** How do sales differ across various regions or countries? Which region has the highest revenue, and which underperforms?
- **Visualization:** Map chart or bar chart displaying sales by region/country.

## 4. Order Status Insights

- **Question:** What is the distribution of order statuses (e.g., Shipped, Cancelled, On Hold)? Are there any patterns or concerns with cancelled or delayed orders?
- **Visualization:** Pie chart or stacked bar chart showing the breakdown of order statuses.

## 5. Customer Segmentation

- **Question:** Who are the top customers based on revenue? Are there differences in purchasing behaviour across different customer groups or territories?
- **Visualization:** Table or bar chart showing top customers and their corresponding sales figures.

## 6. Deal Size Distribution

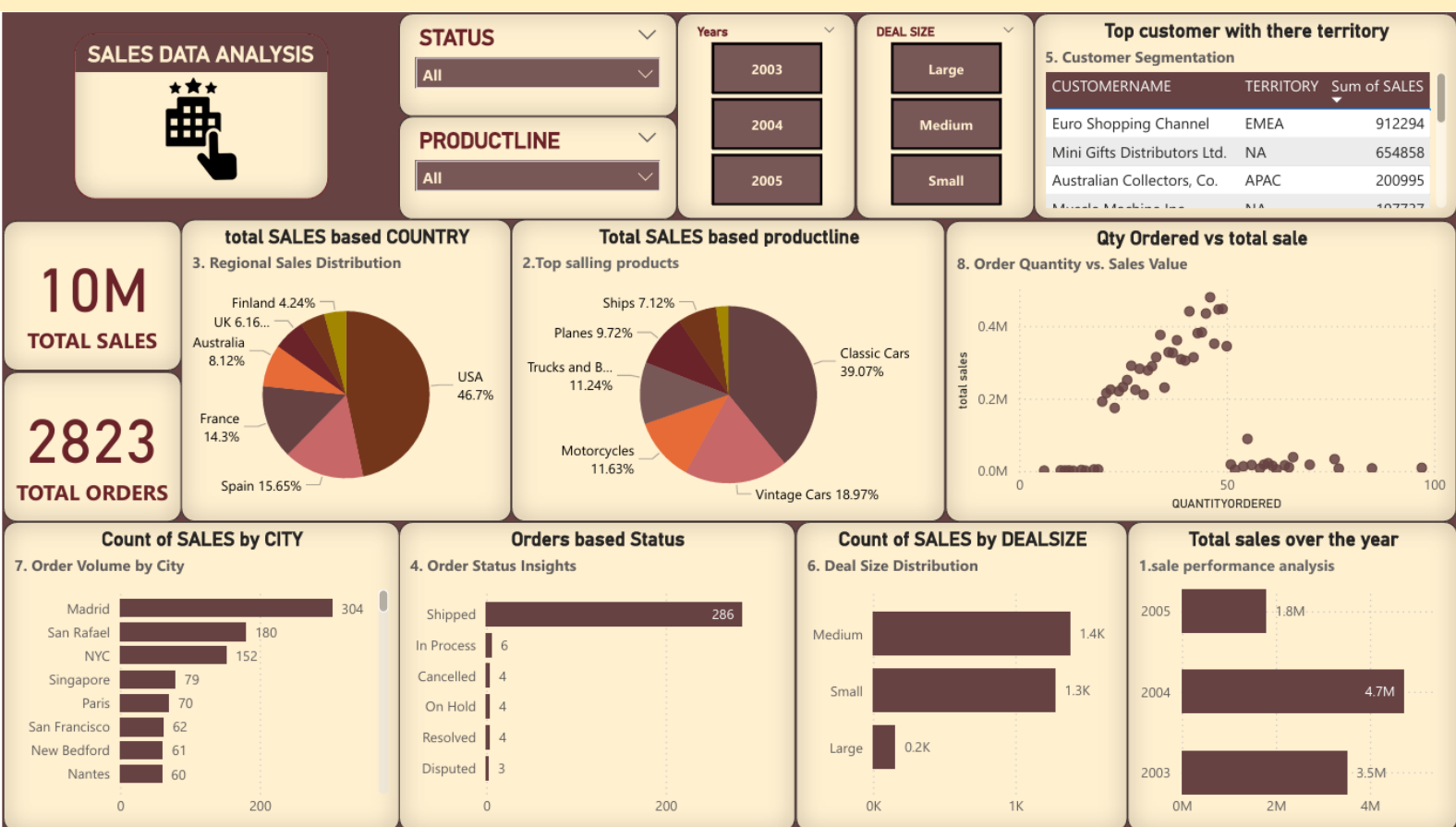
- **Question:** How do small, medium, and large deals contribute to overall revenue? Are larger deals more profitable, or do smaller deals dominate the sales volume?
- **Visualization:** Pie chart or stacked bar chart illustrating the contribution of different deal sizes to total sales.

## 7. Order Volume by City

- **Question:** Which cities have the highest order volume and sales? Is there a geographic concentration of sales?
- **Visualization:** Map chart or bar chart showing order volume by city.

## 8. Order Quantity vs. Sales Value

- **Question:** Is there a strong correlation between the quantity ordered and the sales value? Are larger orders always more profitable?
- **Visualization:** Scatter plot showing quantity ordered vs. sales value



## Final Conclusion:

- The company has experienced steady growth in total sales over the years, with a significant increase from 2003 to 2005.
- The total number of orders has also increased, indicating a growing customer base.
- USA is the top-performing regions, contributing significantly to overall sales.
- Classic Cars were the most popular product line, driving the highest sales but Vintage Cars, Moter cycles, Trucks and Buses also contributed substantially to overall revenue.
- Euro Shopping Channel in the EMEA region was the top customer in terms of total sales.
- Madrid and San Rafael were the cities with the highest number of orders.
- Shipped orders were the most frequent status, indicating efficient order fulfillment.

## Key Recommendations:

- **Focus on Classic Cars:** Given their popularity, the company should consider expanding its offerings in this product line or introducing new models within this category.
- **Optimize Order Fulfillment:** Continue to improve order processing and shipping times to enhance customer satisfaction and reduce cancellations.
- **Leverage Top Customer Relationships:** Build stronger relationships with Euro Shopping Channel and Mini Gifts Distributors Ltd. to explore potential partnerships or exclusive deals.
- **Monitor Regional Trends:** Keep track of regional market dynamics and adjust sales strategies accordingly to capitalize on emerging opportunities