



# AXON CLASSIC CARS

## SQL CASE STUDY



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# INTRODUCTION

Axon Classic Cars is the go-to place for classic car enthusiasts. They specialize in sourcing, restoring, and selling iconic vehicles from automotive history, always ensuring top quality, authenticity, and customer satisfaction.

Axon needs our assistance to analyze their data for future growth.







# PROBLEM STATEMENT

- Axon Classic Cars, a small retailer specializing in classic vehicles, struggles with sales data management and analysis.
- Their sales team lacks access to a centralized system, impeding data comprehension.
- Management faces difficulties in obtaining accurate, up-to-date sales reports, affecting decision-making.
- To resolve these issues, Axon intends to implement a Business Intelligence (BI) solution, considering PowerBI and SQL, to enhance sales data management and analysis.





# DATASET

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The dataset for this project is provided through a MySQL database, which comprises several key tables

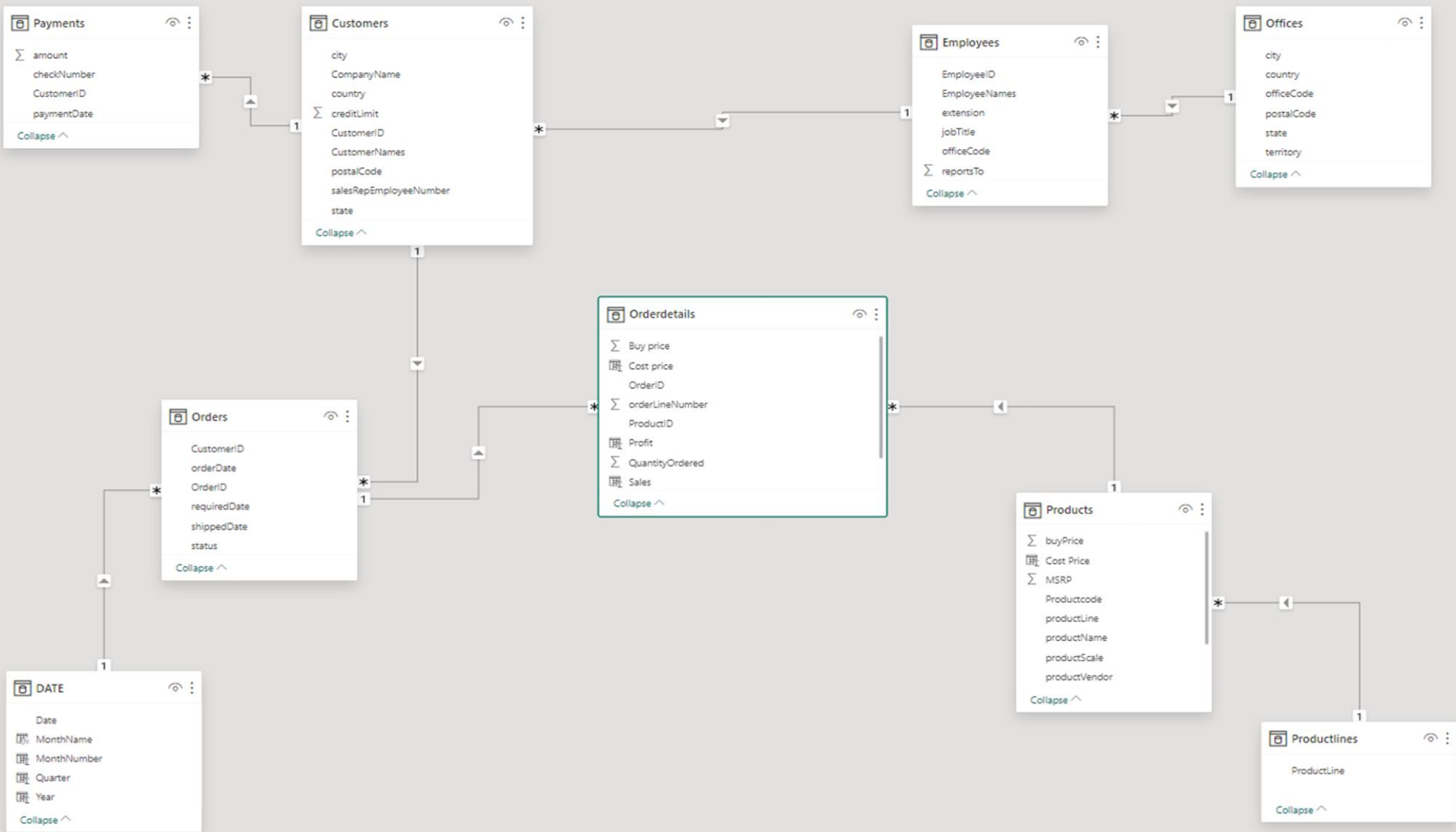
1. **Customers**: Contains customer data, which is crucial for understanding the client base and preferences.
2. **Products**: Lists scale model cars available for sale.
3. **ProductLines** : Categorizes products into various product line categories, aiding in sales analysis.
4. **Orders**: Records sales orders placed by customers, offering insights into purchase trends.
5. **OrderDetails** : Contains detailed information about sales order line items, which is essential for a granular analysis of sales data.
6. **Payments**: Stores payment data, enabling tracking of customer transactions.
7. **Employees**: Contains information about all employees and the organization's structure, including reporting relationships.
8. **Offices**: Provides data on sales office locations, which may impact sales performance







# Entity Relationship Diagram





# Which are the Top 5 countries that have most sales

WITH CTE as (

SELECT Country,SUM(quantityOrdered \* priceEach) as Total\_sales from orderdetails

JOIN orders on orderdetails.orderNumber = orders.orderNumber

JOIN customers on orders.customerNumber = customers.customerNumber

GROUP BY country

ORDER BY Total\_sales desc

LIMIT 5

)

SELECT country,Total\_sales from CTE;

## SUGGESION:

Focus more on making sales stronger in the USA, expanding sales in Spain and France and doing specific marketing in smaller market like Spain and Australia to increase sales.

Country	Total_sales
USA	3273280.05
Spain	1099389.09
France	1007374.02
Australia	562582.59
New Zealand	476847.01



# Find the Top 10 selling Products

```
SELECT productName,SUM(quantityOrdered * priceEach) as Total_sales from products
JOIN orderdetails on products.productCode = orderdetails.productCode
GROUP BY productName
ORDER BY Total_sales desc
LIMIT 10;
```

## SUGGESION:

Promote and sell a lot of popular cars we have plenty of, like the '1992 Ferrari 360 Spider Red,' '2001 Ferrari Enzo,' and '1992 Alpine Renault 1300.' For cars that aren't selling as much, try special ads, exclusive deals, or package offers to sell more of them.

ProductNames	Total_sales
1992 Ferrari 360 Spider red	276839.98
2001 Ferrari Enzo	190755.86
1952 Alpine Renault 1300	190017.96
2003 Harley-Davidson Eagle Drag Bike	170686.00
1968 Ford Mustang	161531.48
1969 Ford Falcon	152543.02
1980s Black Hawk Helicopter	144959.91
1998 Chrysler Plymouth Prowler	142530.63
1917 Grand Touring Sedan	140535.60
2002 Suzuki XREO	135767.03





## Find the Top 7 Countries which have most number of Orders

```
SELECT country,COUNT(orderNumber) as Total_orders from orders
JOIN customers on orders.customerNumber = customers.customerNumber
GROUP BY country
ORDER BY Total_orders desc
LIMIT 7
)
SELECT country>Total_orders from CTE
```

### SUGGESTION:

Advertise more in the USA, customize marketing for France and Spain, promote specifically in Australia and New Zealand, showcase a variety of products globally, listen to customer feedback, offer local support, give special deals in Australia and New Zealand, and improve online presence.

Country	Total_orders
USA	112
France	37
Spain	36
Australia	19
New Zealand	15
UK	13
Italy	10



## Find the Total Sales and Profit Of ProductLines

WITH CTE as (

SELECT

pl.productLine,

SUM(quantityordered \* priceEach) as Total\_Sales,

SUM(quantityordered \* buyprice) as Cost\_price,

SUM((quantityordered \* priceeach)-(quantityordered \* buyprice)) as Profit

FROM

orderdetails od

JOIN products p on od.productcode = p.productcode

JOIN productlines pl on p.productline = pl.productline

GROUP BY pl.productLine

)

SELECT Productline,Total\_Sales,Profit from CTE

### SUGGESION:

Focus on optimizing the sales and marketing strategies for ships, planes, and trains product lines to increase their profitability. Consider exploring new target markets, implementing targeted promotions, and enhancing product features to boost sales.

ProductLines	Total_sales	Profit
Classic Cars	3853922.49	1526212.20
Motorcycles	1121426.12	469255.30
Planes	954637.54	365960.71
Ships	663998.34	261289.47
Trains	188532.92	65341.02
Trucks and Buses	1024113.57	400553.22
Vintage Cars	1797559.63	737268.33



## Find the Top 5 Employees Who have Done Most Sales

```
SELECT CONCAT(firstname, ' ', lastname) as EmployeeNames, SUM(quantityordered * priceeach) as Total_sales from orderdetails
JOIN orders on orderdetails.orderNumber = orders.orderNumber
JOIN customers on orders.customerNumber = customers.customerNumber
JOIN employees on customers.salesRepEmployeeNumber = employees.employeeNumber
GROUP BY EmployeeNames
ORDER BY Total_sales DESC
LIMIT 5;
```

EmployeeNames	Total_sales
Gerard Hernandez	1258577.81
Leslie Jennings	1081530.54
Pamela Castillo	868220.55
Larry Bott	732096.79
Barry Jones	704853.91

### SUGGESION:

Recognize and reward the top 5 sales performers with a combination of monetary incentives, public recognition, and personalized appreciation gestures to motivate and retain their exceptional contributions.





Find the Product which is not ordered by any customer

```
SELECT
    productName
FROM
    products
WHERE
    productCode NOT IN (SELECT
        productCode
    FROM
        orderdetails);
```

ProductName
1985 Toyota Supra

**SUGGESTION:**

Considering the average Manufacturers suggested retail price is \$100.43, contemplate reducing the MSRP or providing a special deal for the 1985 'Toyota Supra' , Currently priced at \$107.57



Find each year how many orders are placed

```
SELECT
    YEAR(orderdate)Year,COUNT(orderdate) Total_orders
FROM
    orders
GROUP BY YEAR(orderdate);
```

Year	Total_Orders
2003	111
2004	151
2005	64

**SUGGESION:**

Sustain success at Axon in 2005 by following 2004 strategies, innovate offerings, invest in employee development, engage with customers, explore market expansion and integrate technology for continued growth.



## Find the country with the Highest number of Customers

```
SELECT
    country,
    Count(*) AS Customer_count
FROM
    customers
GROUP BY Country
ORDER BY Customer_count desc
LIMIT 6;
```

Countries	Customer_count
USA	36
Germany	13
France	12
Spain	7
Australia	5
UK	5

### SUGGESTION:

Should focus more on strengthening the market in the USA, consider expansion in Germany and France and implement targeted marketing in smaller markets like Spain, UK and Australia





## Find the monthly sales for all three years

```
SELECT monthname(orderDate) AS Month,SUM(quantityordered*priceeach) AS Total_sales
FROM
orders
JOIN orderdetails ON orders.orderNumber = orderdetails.orderNumber
GROUP BY monthname(orderDate)
```

### SUGGESION:

Since the sales peak is Very high in November due to Black Friday' s significant discounts. Consider extending similar deals and offers throughout the year to elevate sales in other months.

Months	Total_sales
January	716815.00
February	735098.65
March	737920.36
April	718244.98
May	869235.79
June	493841.51
July	527503.85
August	597584.20
September	520497.65
October	1014570.07
November	1967317.13
December	705561.42



# KEY INSIGHTS

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**1.Customer Base:** Our primary customer base is concentrated in the USA, with Germany being a significant market as well.

**2.Product Line Popularity:** "Classic Cars" and "Vintage Cars" lead in customer preferences, with "Classic Cars" being the most frequently ordered.

**3.Best-Selling Product:** The "1992 Ferrari 360 Spider Red" is our top-performing product, closely followed by the "1937 Lincoln Berline."

**4.Impressive Sales:** We've achieved a commendable total sales figure of \$8.85 million, showcasing strong market demand.

**5.Paris Office Distinction:** Our Paris office excels in both workforce strength and sales production, surpassing other office locations.

**6.Outstanding Employee:** Gerard Hernandez, based in our Paris office, stands out as our top-performing employee, demonstrating exceptional sales prowess with the highest number of orders.



# Recommendation

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- **Market Growth Strategy** : While the USA is a significant market, consider leveraging the success in Germany as a stepping-stone to further expand into European markets. Invest in marketing and customer engagement strategies specifically tailored to European audiences to tap into this growth potential.
- **Product Line Expansion**: Capitalize on the popularity of "Classic Cars" and "Vintage Cars" by expanding these product lines. Introduce new models, variations, or related accessories to cater to the existing customer interest and potentially attract new customers with similar preferences
- **Promote Best-selling Products Focus** marketing efforts on promoting the "1992 Ferrari 360 Spider Red" and the "1937 Lincoln Berline" as top-selling products to maximize sales and customer engagement.
- **USA Market Expansion**: Prioritize and expand efforts in the USA market due to its significant contribution of 34.38% of total sales, aiming to sustain and potentially increase this market share over time.
- **Employee Recognition and Development**: Implement an employee recognition program to celebrate and reward outstanding performance. This can boost morale and motivate all employees to excel. Offer career development paths and opportunities for growth within the organization to retain top talent and allow them to advance their careers.

