Sales Data Analysis of Axon

Objective: Creating a BI Dashboard for Analysing Sales Data

The Axon Data was received as a MySQL file containing the following Tables

- Customers: stores customer's data.
- Products: stores a list of scale model cars.
- Product Lines: stores a list of product line categories.
- Orders: stores sales orders placed by customers.
- OrderDetails: stores sales order line items for each sales order.
- Payments: stores payments made by customers based on their accounts.
- Employees: stores all employee information as well as the organization structure such as who reports to whom.
- Offices: stores sales office data

```
create table details(customerNumber int not null,phone varchar(50),city varchar(50),state varchar(50),postalcode varchar(50),
country varchar(50)
,foreign key (customerNumber) references customers(customerNumber));
```

```
insert into details(customerNumber,phone,city,state,postalcode,country)
select customerNumber,phone,city,state,postalcode,country from customers;
```

Created a new table details and normalised the customers table

Added the required columns

```
alter table details add column(addressLine1 varchar(50),addressLine2 varchar(50));

SET SQL_SAFE_UPDATES = 0;

UPDATE details d
INNER JOIN customers c ON d.customerNumber = c.customerNumber
SET d.addressLine1 = c.addressLine1,
    d.addressLine2 = c.addressLine2;
select * from details d inner join customers c on c.customernumber = d.customernumber;
```

Created another table profits which contains all the necessary columns which gives better understanding of the sales data and also helps in calculating the profits

```
create table profits
select o.ordernumber,od.productCode,productname,o.orderdate,quantityOrdered,priceeach-buyprice as profit_on_sale,
buyprice,priceeach from products p
inner join orderdetails od on od.productcode=p.productcode
inner join orders o on o.ordernumber=od.ordernumber;
```

Created a table having all the necessary details of the sales buyprice of that product, selling price of that product, profit on selling one product

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

ordernumber	productCode	productname	orderdate	quantityOrdered	profit_on_sale	buyprice	priceeach
10100	S18_1749	1917 Grand Touring Sedan	2003-01-06	30	49.30	86.70	136.00
10100	S18_2248	1911 Ford Town Car	2003-01-06	50	21.79	33.30	55.09
10100	S18_4409	1932 Alfa Romeo 8C2300 Spider Sport	2003-01-06	22	32.20	43.26	75.46
10100	S24_3969	1936 Mercedes Benz 500k Roadster	2003-01-06	49	13.54	21.75	35.29
10101	S18_2325	1932 Model A Ford J-Coupe	2003-01-09	25	49.58	58.48	108.06
10101	S18_2795	1928 Mercedes-Benz SSK	2003-01-09	26	94.50	72.56	167.06
10101	S24_1937	1939 Chevrolet Deluxe Coupe	2003-01-09	45	9.96	22.57	32.53
10101	S24_2022	1938 Cadillac V-16 Presidential Limousine	2003-01-09	46	23.74	20.61	44.35
10102	S18_1342	1937 Lincoln Berline	2003-01-10	39	34.93	60.62	95.55
10102	S18_1367	1936 Mercedes-Benz 500K Special Roadster	2003-01-10	41	18.87	24.26	43.13

Created another table called Manager which gives information of the Managers and also the employees who work under them

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

ManagerEmployeeId	Manager	EmployeeId	Employee	city	country
1002	Diane Murphy President	1056	MaryPatterson	San Francisco	USA
1002	Diane Murphy President	1076	JeffFirrelli	San Francisco	USA
1056	Mary Patterson VP Sales	1088	WilliamPatterson	San Francisco	USA
1056	Mary Patterson VP Sales	1102	GerardBondur	San Francisco	USA
1056	Mary Patterson VP Sales	1143	AnthonyBow	San Francisco	USA
1143	Anthony Bow Sales Manager (NA)	1165	LeslieJennings	San Francisco	USA
1143	Anthony Bow Sales Manager (NA)	1166	LeslieThompson	San Francisco	USA
1143	Anthony Bow Sales Manager (NA)	1188	JulieFirrelli	San Francisco	USA
1143	Anthony Bow Sales Manager (NA)	1216	StevePatterson	San Francisco	USA
1143	Anthony Bow Sales Manager (NA)	1286	Foon YueTseng	San Francisco	USA

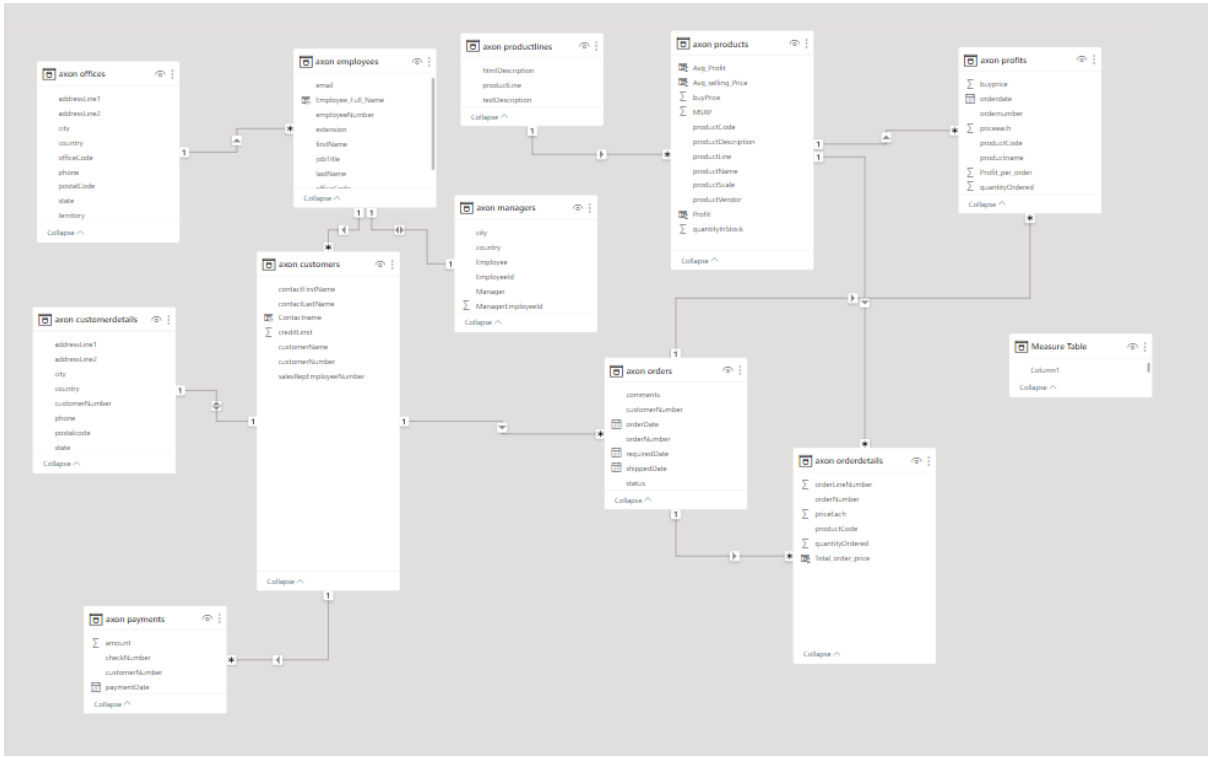
By Preparing the data it helps in making proper visuals in the Power BI

The next step is to import this data into the Power Bi Desktop for Visualization

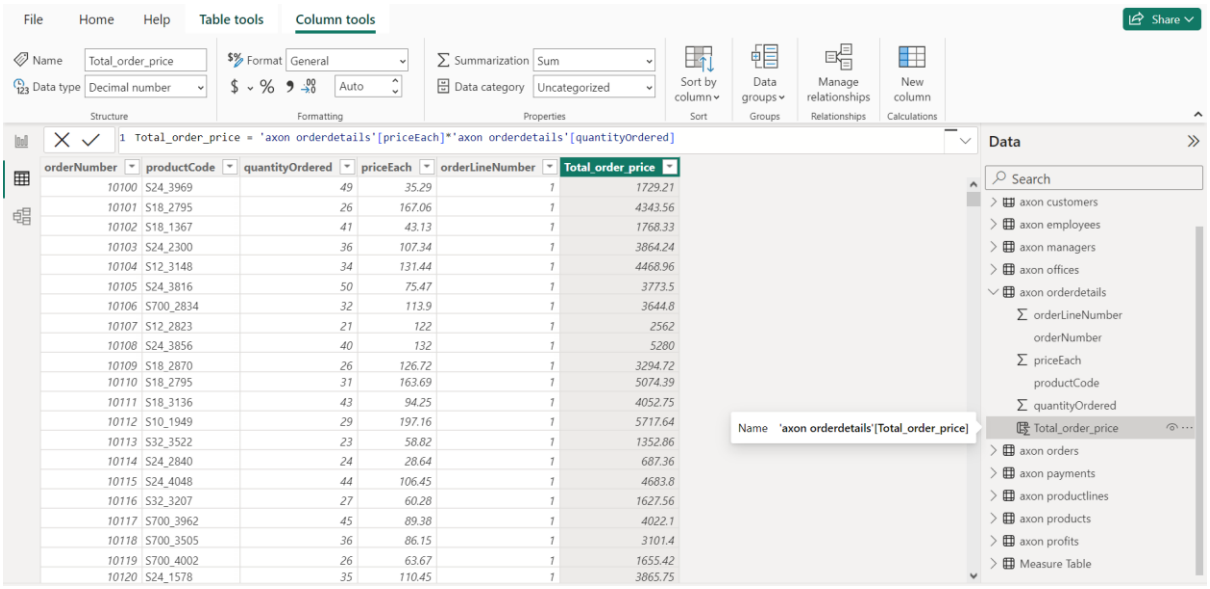
Importing the data to Power BI

Created a new measure table that stores all the measures which will be helpful in finding the measures created.

Made the necessary relations among the default tables and the created tables



Created a new column in the orderdetails table that helps in find the total order price



Created the necessary measures which help in finding the required results.

Below are all the measures created

No of Products Sold

```
1 Count_of_Products_Sold = sum('axon profits'[quantityOrdered])
```

How many products the company sells

```
1 No_of_products = count('axon products'[productCode])
```

Cancelled Products Sales

```
1 Products_Sales_got_cancelled = [Total_Sales]-[SumOfAmountbyChecks]
```

Total Sales

```
1 Total_Sales = CALCULATE(sum('axon orderdetails'[Total_order_price]))
```

Total Profits

```
1 Total_profits = sumx('axon profits','axon profits'[quantityOrdered]*'axon profits'[Profit_per_order])-
  [Products_Sales_got_cancelled]
```

Total Revenue

```
1 Total_Revenue = [Total_Sales]-[SumOfAmountbyChecks]
```

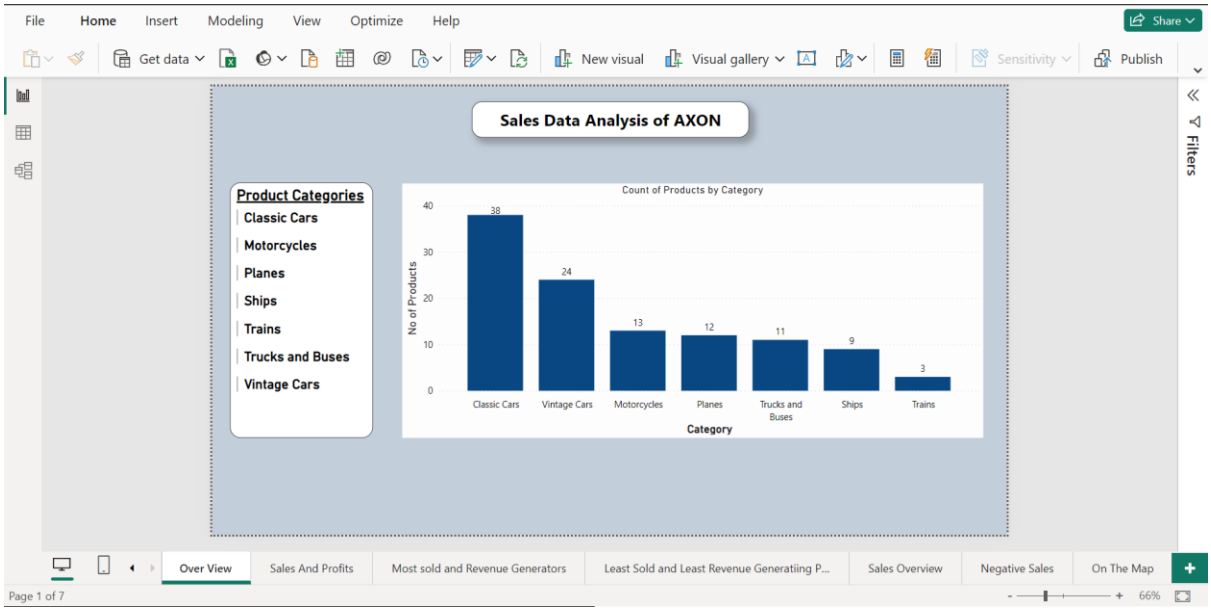
Sum of Amounts paid by the customer

```
1 SumOfAmountbyChecks = CALCULATE(sum('axon payments'[amount]))
```

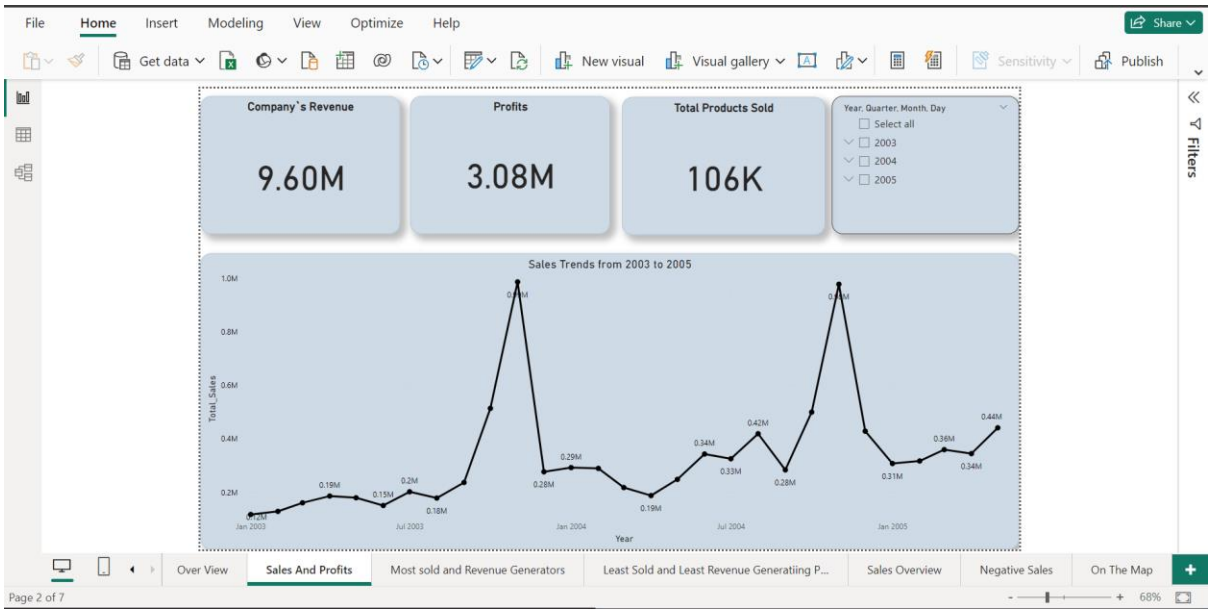
After creating all the necessary measure then preparing the necessary visuals which helps in finding the Sales and also using the

Divided the analysis into 7 Pages in simple and understandable format even people with zero knowledge in BI tools can understand these reports

1.Sales Overview

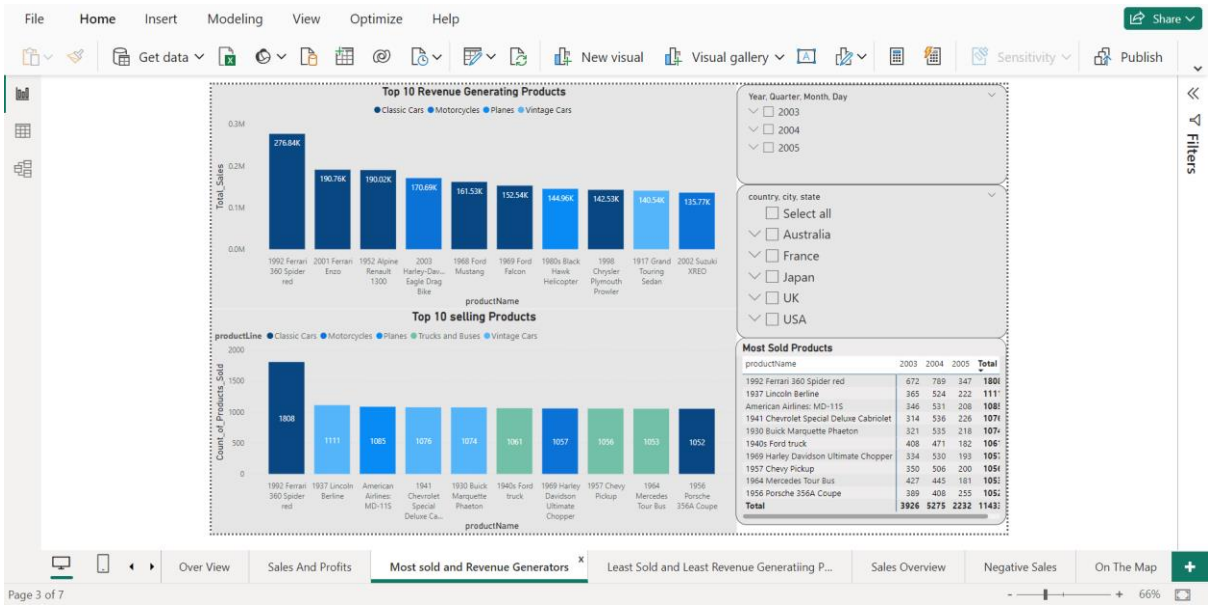


2. Sales and Profits



3.Most Sold Products and Most revenue Generating Products

Slicers are used to know the details as per requirements

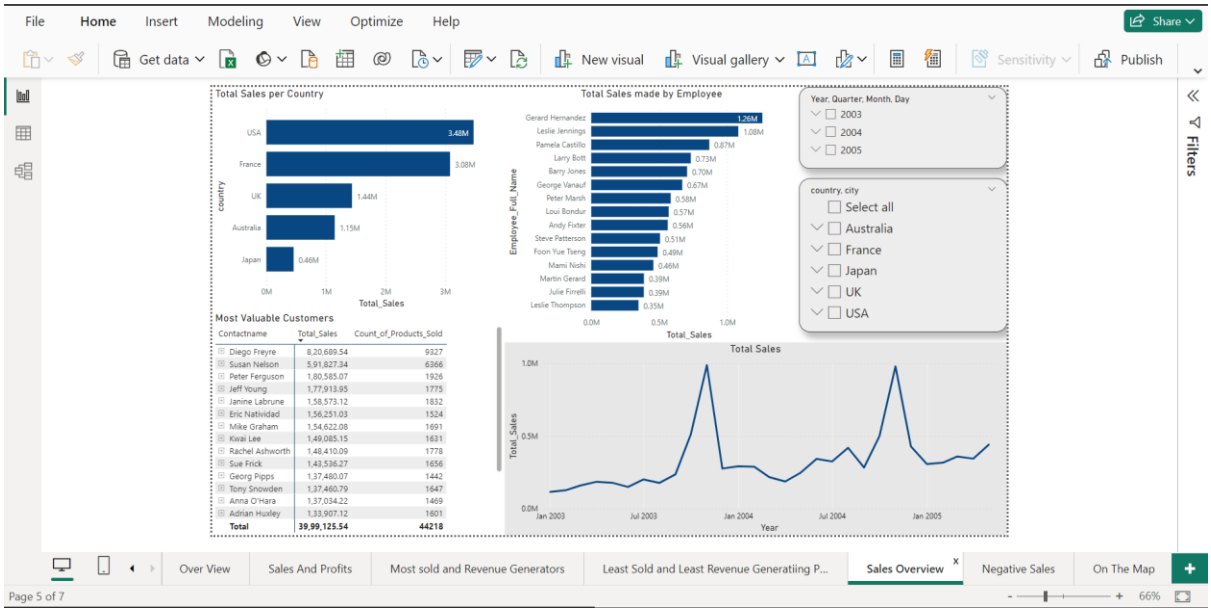


4. Least Sold And Least Revenue Generating Products

5. Sales Overview

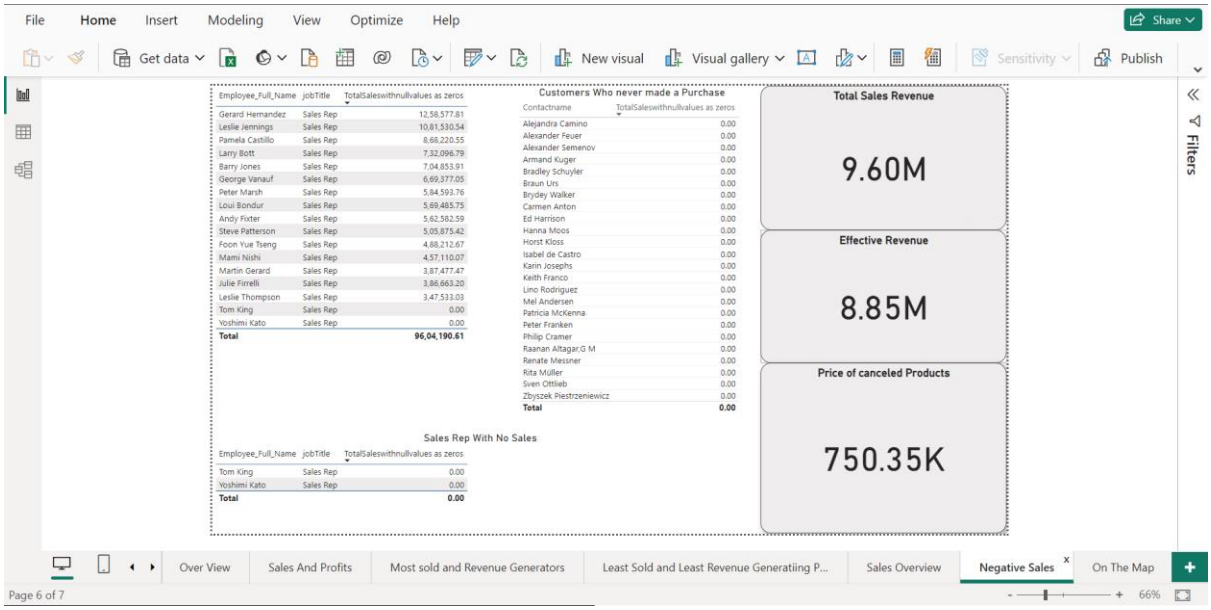
This has information about the sales in all 5 countries and the sales made by the employees who made the most and the least sales and also the trend

Slicers are used effectively that can be used as per the requrements



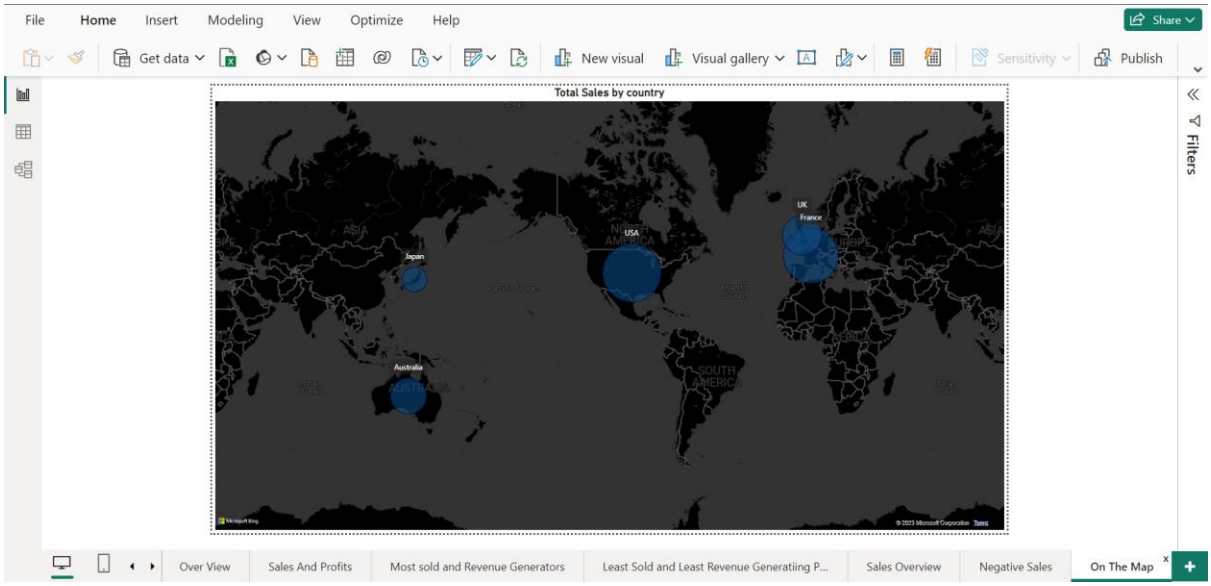
6. Negative Sales

This page has data about the employees who made no sales and also the customers who haven`t made any purchases we can approach them to know their requirements and can make some business



7. Sales on Map

This page has the Map of the Sales made in the countries we are doing business in.



Conclusion:

1. Have to recruit new employees and train them with some business skills and Sales Skills.
2. Some orders are cancelled so have to consider those in the final profits are we can simply add up the money we got from customers to find the revenue.
3. In 2005 hybrid cars gained popularity so we have to add those types of cars to the inventory.
4. Have to clear the inventory or have to maintain fewer stocks of the products that are less sold in the country or city we can find this information through the BI tool.
5. Have to update the inventory with the products that are most liked by the customers.
6. Have to take feedback from the customers and also gather information about their requirements and also their intrusts.
7. Quarterly or yearly analysis of the data should be made for a proper understanding of the sales data.