BUSINESS ANALYST CAREER PROGRAM

CAPSTONE   PROJECT

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AGENDA

- DATA EXPLORATION
- STATISTICAL ANALYSIS USING EXCEL
- GRAPHICAL ANALYSIS USING EXCEL
- INSERT THE GIVEN DATA INTO THE SQL SERVER
- IMPORT THE DATA FROM THE SQL DATABASE INTO POWERBI
- INTERACTIVE DASHBOARD BY USING VISUALIZATION TOOLS
- CONCLUSION AND INFERENCES

DATA EXPLORATION

The dataset includes columns for Segment, Country, Product, Discount Band, Units Sold, Manufacturing Price, Sale Price, Gross Sales, Discounts, Sales, COGS, Profit, Date, and Month Number. These columns provide comprehensive information about sales transactions, including market segment categorization, geographical sales data, product performance, and discount impact.

They help quantify sales volume, revenue generation, and production costs. The dataset also includes essential financial metrics such as Gross Sales, Discounts, Sales (post-discount revenue), COGS, and Profit. Date and Month Number columns enable time-series analysis to identify sales trends and seasonality, allowing for data-driven decision-making to optimize business strategies.

The dataset includes columns for Segment,

STATISTICAL ANALYSIS USING EXCEL

- **Sum Calculation:** Using the SUM function, the total sales, total profit, and total discount are calculated, providing an overview of the financial performance.

- **Profit Percentage Column:** A new column for profit percentage is added, with each cell using the formula =(Profit/Sales)*100 to calculate the profit as a percentage of sales.

- **Total Values:** The SUM function aggregates the total values for sales, profit, and discount, helping to understand the overall profitability and discount impact.

es	Discounts	Sales	COGS	Profit	Date	Month N
0.00	$ -	$ 32,370.00	$ 16,185.00	$ 16,185.00	01-01-2014	
0.00	$ -	$ 26,420.00	$ 13,210.00	$ 13,210.00	01-01-2014	
0.00	$ -	$ 32,670.00	$ 21,780.00	$ 10,890.00	01-06-2014	
0.00	$ -	$ 13,320.00	$ 8,880.00	$ 4,440.00	01-06-2014	
0.00	$ -	$ 37,050.00	$ 24,700.00	$ 12,350.00	01-06-2014	
0.00	$ -	$ 5,29,550.00	$3,93,380.00	$ 1,36,170.00	01-12-2014	
5.00	$ -	$ 13,815.00	$ 9,210.00	$ 4,605.00	01-03-2014	
6.00	$ -	$ 30,216.00	$ 7,554.00	$ 22,662.00	01-06-2014	
0.00	$ -	$ 37,980.00	$ 18,990.00	$ 18,990.00	01-06-2014	
0.00	$ -	$ 18,540.00	$ 4,635.00	$ 13,905.00	01-06-2014	
0.00	$ -	$ 37,050.00	$ 24,700.00	$ 12,350.00	01-06-2014	
7.50	$ -	$ 3,33,187.50	$3,19,860.00	$ 13,327.50	01-07-2014	
0.00	$ -	$ 2,87,400.00	$2,39,500.00	$ 47,900.00	01-08-2014	
2.00	$ -	$ 15,022.00	$ 10,730.00	$ 4,292.00	01-09-2014	
5.00	$ -	$ 43,125.00	$ 41,400.00	$ 1,725.00	01-10-2013	
5.00	$ -	$ 9,225.00	$ 6,150.00	$ 3,075.00	01-12-2014	
0.00	$ -	$ 5,840.00	$ 2,920.00	$ 2,920.00	01-02-2014	
0.00	$ -	$ 14,610.00	$ 9,740.00	$ 4,870.00	01-02-2014	
6.00	$ -	$ 30,216.00	$ 7,554.00	$ 22,662.00	01-06-2014	
0.00	$ -	$ 3,52,100.00	$2,61,560.00	$ 90,540.00	01-06-2014	
4.00	$ -	$ 4,404.00	$ 1,101.00	$ 3,303.00	01-07-2014	
1.00	$ -	$ 6,181.00	$ 4,415.00	$ 1,766.00	01-08-2014	
5.00	$ -	$ 8,235.00	$ 5,490.00	$ 2,745.00	01-09-2013	

Conditional Formatting: Conditional formatting is applied to the profit percentage column to highlight high and low profit margins, making it easy to identify performance variations at a glance.

Visual Analysis: The use of color-coded conditional formatting visually distinguishes profitable entries from less profitable ones, facilitating quick and effective data interpretation.
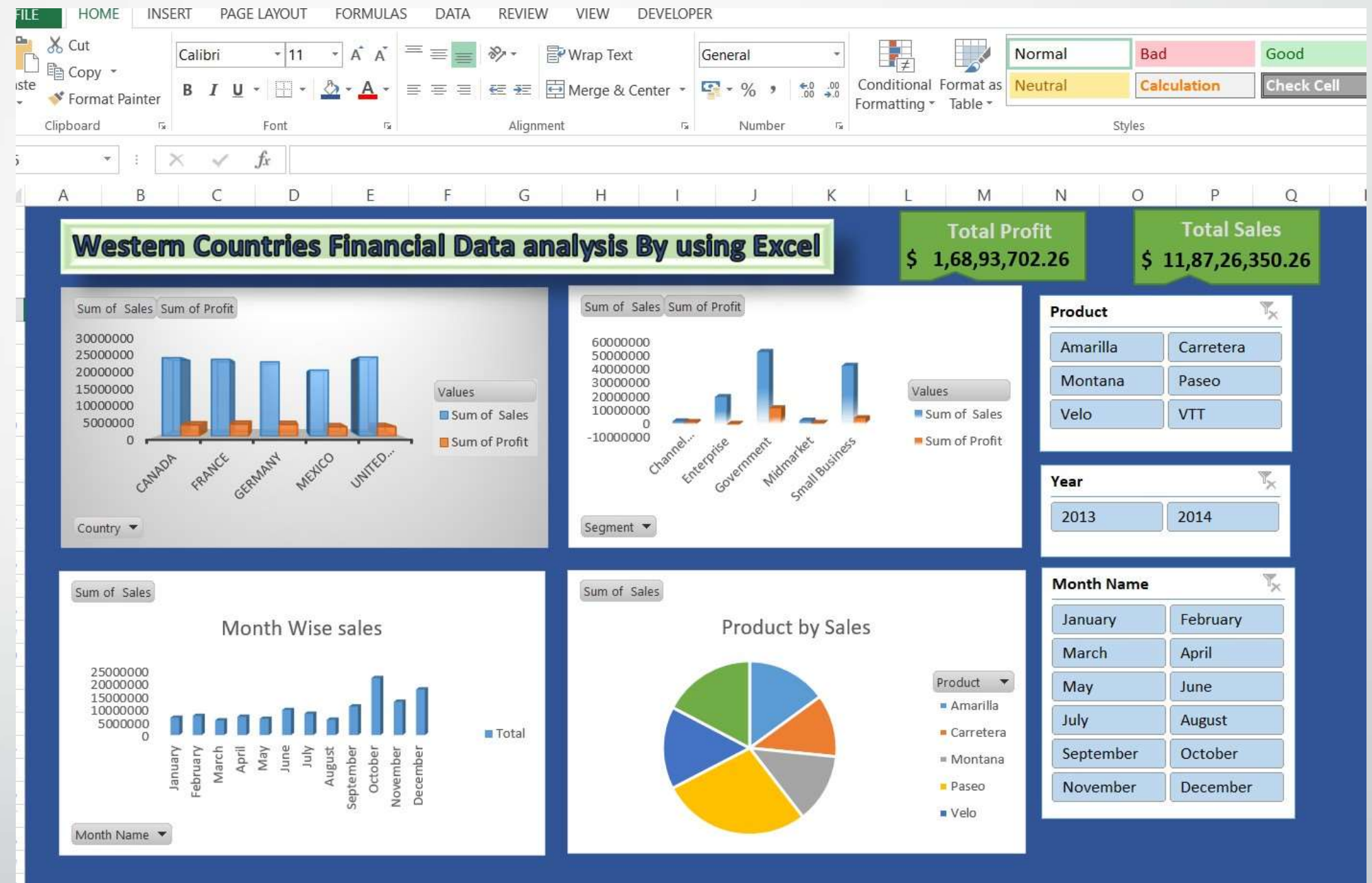

2574	$ 120.00	$ 300.00	$ 7,72,200.00	$ 1,15,830.00	$ 6,56,370.00	$6,43,500.00	$ 12,870.00	01-11-2013	11	November	2013	$ 0.08
2438	$ 120.00	$ 125.00	$ 3,04,750.00	$ 45,712.50	$ 2,59,037.50	$2,92,560.00	$ (33,522.50)	01-12-2013	12	December	2013	$ (0.20)
914	$ 120.00	$ 12.00	$ 10,968.00	$ 1,645.20	$ 9,322.80	$ 2,742.00	$ 6,580.80	01-12-2014	12	December	2014	$ 0.04
865.5	$ 250.00	$ 20.00	$ 17,310.00	$ 2,596.50	$ 14,713.50	$ 8,655.00	$ 6,058.50	01-07-2014	7	July	2014	$ 0.04
492	$ 250.00	$ 15.00	$ 7,380.00	$ 1,107.00	$ 6,273.00	$ 4,920.00	$ 1,353.00	01-07-2014	7	July	2014	$ 0.01
267	$ 250.00	$ 20.00	$ 5,340.00	$ 801.00	$ 4,539.00	$ 2,670.00	$ 1,869.00	01-10-2013	10	October	2013	$ 0.01
1175	$ 250.00	$ 15.00	$ 17,625.00	$ 2,643.75	$ 14,981.25	$ 11,750.00	$ 3,231.25	01-10-2014	10	October	2014	$ 0.02
2954	$ 250.00	$ 125.00	$ 3,69,250.00	$ 55,387.50	$ 3,13,862.50	$3,54,480.00	$ (40,617.50)	01-11-2013	11	November	2013	$ (0.24)
552	$ 250.00	$ 125.00	$ 69,000.00	$ 10,350.00	$ 58,650.00	$ 66,240.00	$ (7,590.00)	01-11-2014	11	November	2014	$ (0.04)
293	$ 250.00	$ 20.00	$ 5,860.00	$ 879.00	$ 4,981.00	$ 2,930.00	$ 2,051.00	01-12-2014	12	December	2014	$ 0.01
2475	$ 260.00	$ 300.00	$ 7,42,500.00	$ 1,11,375.00	$ 6,31,125.00	$6,18,750.00	$ 12,375.00	01-03-2014	3	March	2014	$ 0.07
546	$ 260.00	$ 300.00	$ 1,63,800.00	$ 24,570.00	$ 1,39,230.00	$1,36,500.00	$ 2,730.00	01-10-2014	10	October	2014	$ 0.02
1368	$ 5.00	$ 7.00	$ 9,576.00	$ 1,436.40	$ 8,139.60	$ 6,840.00	$ 1,299.60	01-02-2014	2	February	2014	$ 0.01
723	$ 10.00	$ 7.00	$ 5,061.00	$ 759.15	$ 4,301.85	$ 3,615.00	$ 686.85	01-04-2014	4	April	2014	$ 0.00
1806	$ 250.00	$ 12.00	$ 21,672.00	$ 3,250.80	$ 18,421.20	$ 5,418.00	$ 13,003.20	01-05-2014	5	May	2014	$ 0.08
$11,25,806.00				$ 92,05,248.24	$ 11,87,26,350.26		$ 1,68,93,702.26					

Sheet1 | Sheet2 | Sheet3 | Sheet4 | Sheet5 | **update** | DashBoad | +

GRAPHICAL ANALYSIS USING EXCEL

A dashboard is created, summarizing total sales, total profit, and total discount using SUM functions for quick reference.
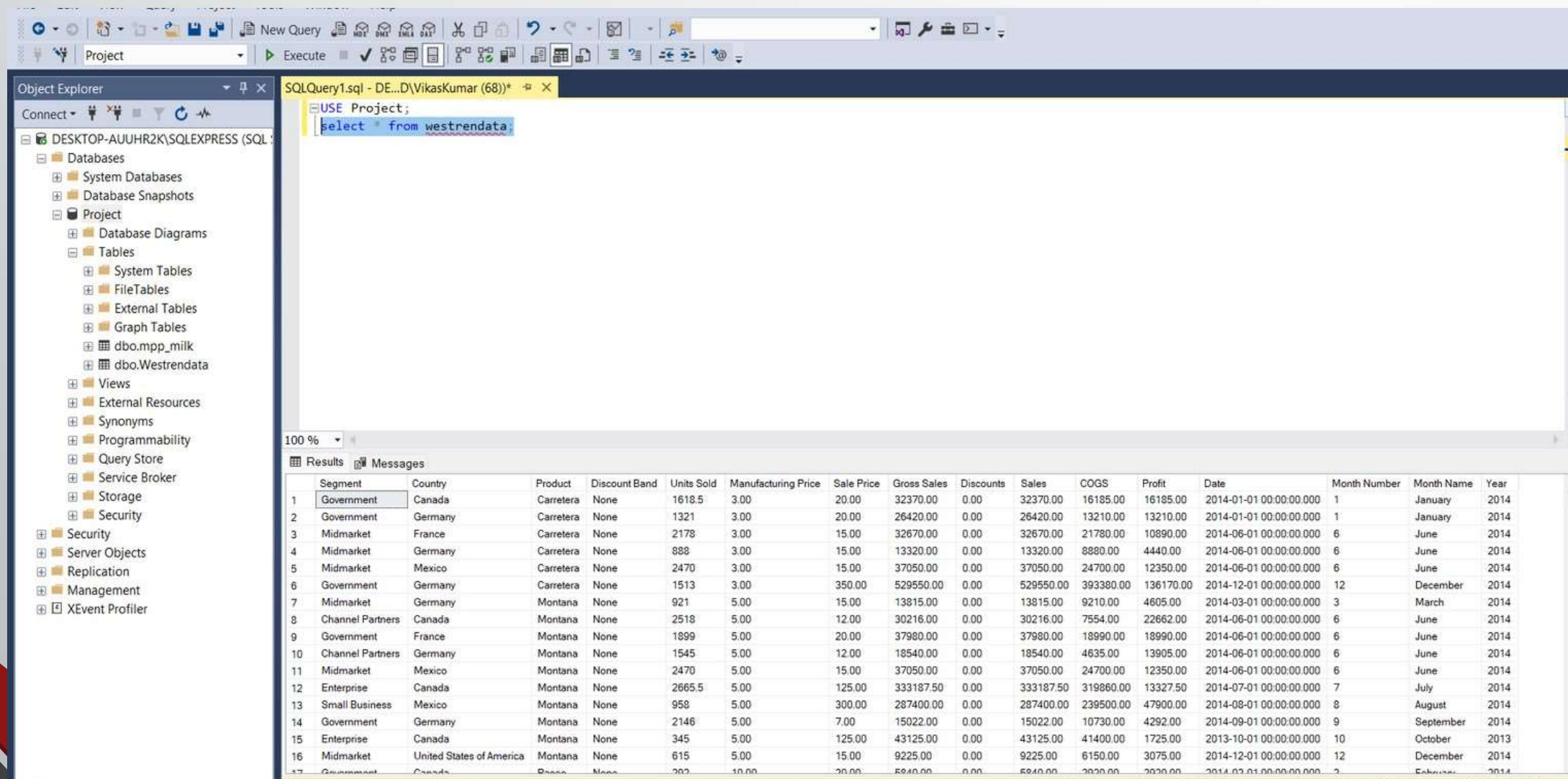
The dashboard is organized with clear headings and sections for each metric, ensuring a user-friendly layout that allows for quick and effective data analysis and decision-making.

INSERT THE GIVEN DATA INTO THE SQL SERVER

- Open SQL Server Management Studio (SSMS)
- Connect to your database engine
- Right-click your database in Object Explorer.
- Select Tasks > Import Data. In the Import Wizard, click Next
- Choose Microsoft Excel as the data source.
- Click Browse to select your Excel file.
- Select the correct Excel version.
- Choose the destination database and table.
- Click Next, review settings, and finish the wizard.

INSERT THE GIVEN DATA INTO THE SQL SERVER

SQLQuery1.sql - DE...D\VikasKumar (68))* ⇥ ✕

```sql
USE Project;
select * from westrendata;

select count(Sales) from westrendata;

select * from westrendata where Segment ='Government' and Country ='Canada';
```
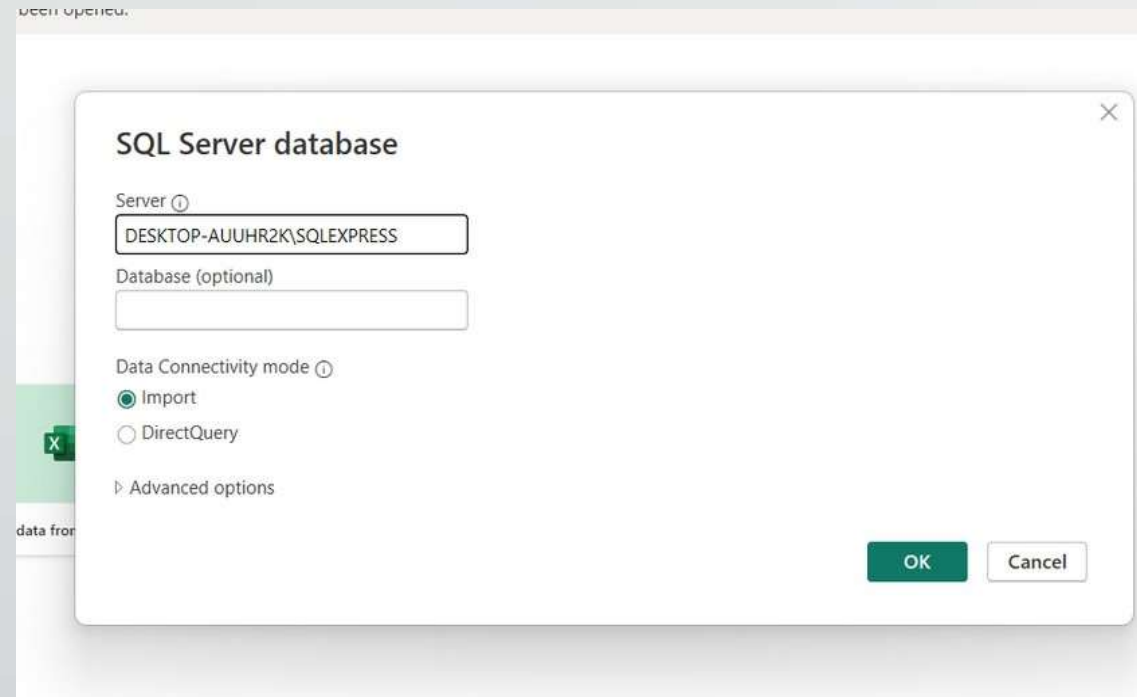
▦ Results ▣ Messages

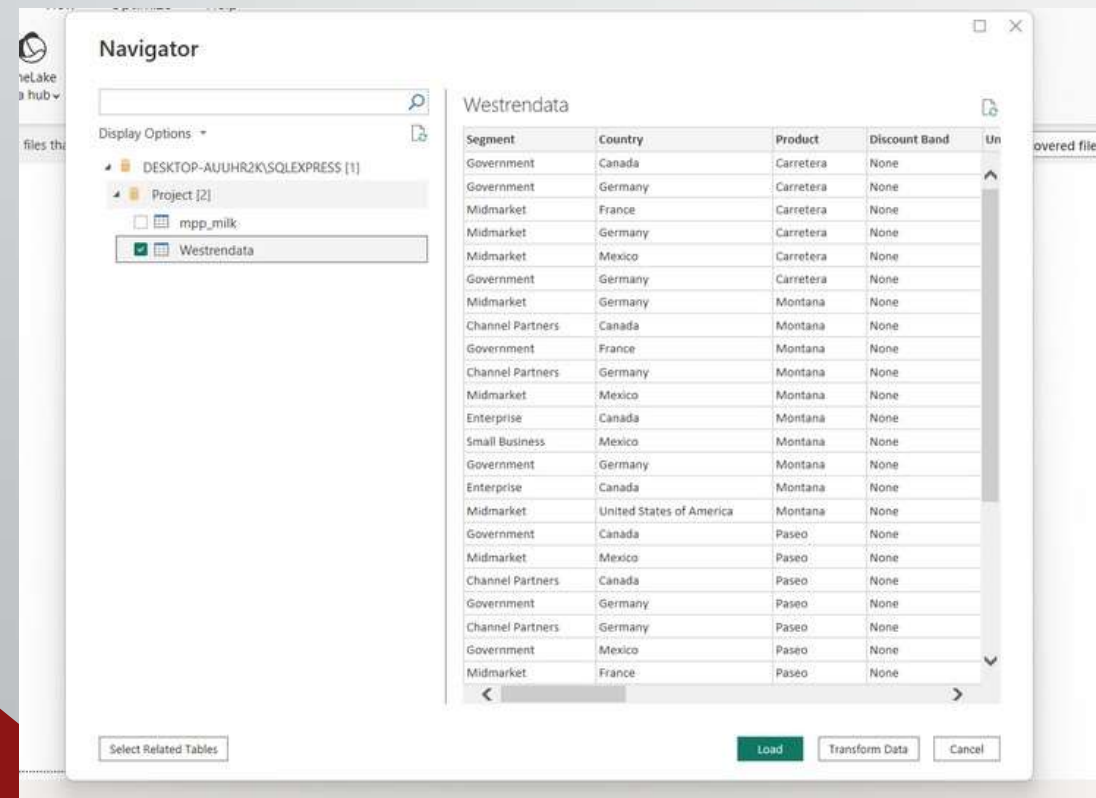|	Segment	Country	Product	Discount Band	Units Sold	Manufacturing Price	Sale Price	Gross Sales	Discounts	Sales	COGS	Profit	Date	Month Number	Month Name	Year
1	Government	Canada	Carretera	None	1618.5	3.00	20.00	32370.00	0.00	32370.00	16185.00	16185.00	2014-01-01 00:00:00.000	1	January	2014
2	Government	Germany	Carretera	None	1321	3.00	20.00	26420.00	0.00	26420.00	13210.00	13210.00	2014-01-01 00:00:00.000	1	January	2014
3	Midmarket	France	Carretera	None	2178	3.00	15.00	32670.00	0.00	32670.00	21780.00	10890.00	2014-06-01 00:00:00.000	6	June	2014
4	Midmarket	Germany	Carretera	None	888	3.00	15.00	13320.00	0.00	13320.00	8880.00	4440.00	2014-06-01 00:00:00.000	6	June	2014
5	Midmarket	Mexico	Carretera	None	2470	3.00	15.00	37050.00	0.00	37050.00	24700.00	12350.00	2014-06-01 00:00:00.000	6	June	2014
6	Government	Germany	Carretera	None	1513	3.00	350.00	529550.00	0.00	529550.00	393380.00	136170.00	2014-12-01 00:00:00.000	12	December	2014
7	Midmarket	Germany	Montana	None	921	5.00	15.00	13815.00	0.00	13815.00	9210.00	4605.00	2014-03-01 00:00:00.000	3	March	2014
8	Channel Partners	Canada	Montana	None	2518	5.00	12.00	30216.00	0.00	30216.00	7554.00	22662.00	2014-06-01 00:00:00.000	6	June	2014
9	Government	France	Montana	None	1899	5.00	20.00	37980.00	0.00	37980.00	18990.00	18990.00	2014-06-01 00:00:00.000	6	June	2014
10	Channel Partners	Germany	Montana	None	1545	5.00	12.00	18540.00	0.00	18540.00	4635.00	13905.00	2014-06-01 00:00:00.000	6	June	2014
11	Midmarket	Mexico	Montana	None	2470	5.00	15.00	37050.00	0.00	37050.00	24700.00	12350.00	2014-06-01 00:00:00.000	6	June	2014
12	Enterprise	Canada	Montana	None	2665.5	5.00	125.00	333187.50	0.00	333187.50	319860.00	13327.50	2014-07-01 00:00:00.000	7	July	2014
13	Small Business	Mexico	Montana	None	958	5.00	300.00	287400.00	0.00	287400.00	239500.00	47900.00	2014-08-01 00:00:00.000	8	August	2014
14	Government	Germany	Montana	None	2146	5.00	7.00	15022.00	0.00	15022.00	10730.00	4292.00	2014-09-01 00:00:00.000	9	September	2014
15	Enterprise	Canada	Montana	None	345	5.00	125.00	43125.00	0.00	43125.00	41400.00	1725.00	2013-10-01 00:00:00.000	10	October	2013
16	Midmarket	United States of America	Montana	None	615	5.00	15.00	9225.00	0.00	9225.00	6150.00	3075.00	2014-12-01 00:00:00.000	12	December	2014
17	Government	Canada	Paseo	None	292	10.00	20.00	5840.00	0.00	5840.00	2920.00	2920.00	2014-02-01 00:00:00.000	2	February	2014

✔ Query executed successfully.   🔒 DESKTOP-AUUHR2K\SQLEXPRESS ...   AzureAD\VikasKumar (68)   Project   00:00:00   700 rows

IMPORT THE DATA FROM THE SQL DATABASE INTO POWERBI

- Open Power BI Desktop. Click Home > Get Data > SQL Server.
- Enter the server name and database, then click OK. Choose the data tables to import and click Load.
- Data from SQL Server will
- be imported into Power BI for analysis.

IMPORT THE DATA FROM THE SQL DATABASE INTO POWERBI

INTERACTIVE DASHBOARD BY USING VISUALIZATION TOOLS
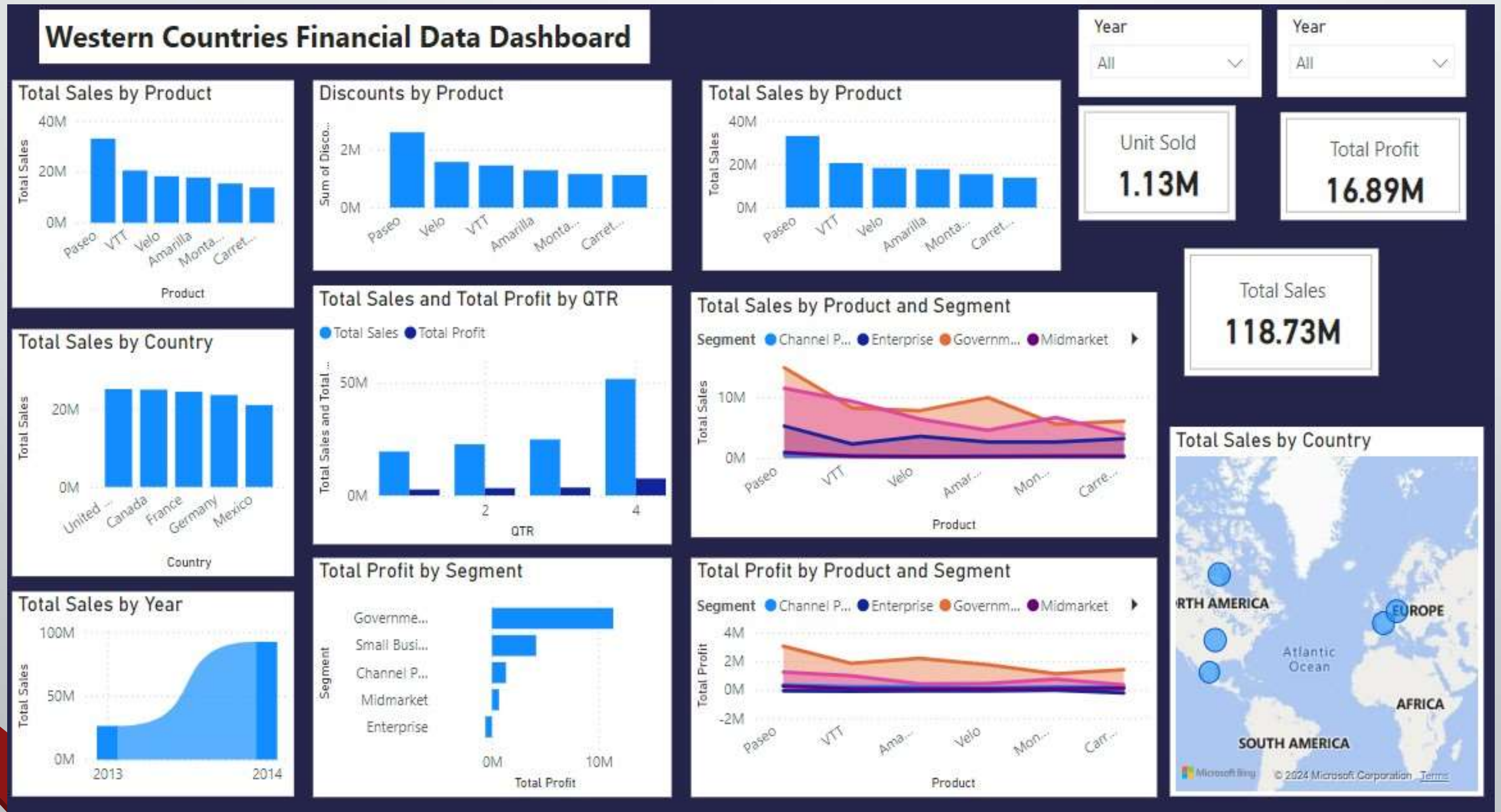
CONCLUSION AND INFERENCES

"Western Countries Financial Data analysis By using Excel"
Total Profit: $1,68,93,702.26
Total Sales: $11,87,26,350.26

"Western Countries Financial Data Dashboard" **By using Power bi**
Total Profit:$16.89M
Total Sales:$118.73M
Units Sold:1.13M

The Power BI dashboard provides a comprehensive visualization of financial data for Western countries. It includes bar charts for total sales and discounts by product, as well as sales by country. A combined line and bar chart shows total sales and profit by quarter, while another line chart breaks down sales by product and segment. Additionally, the dashboard features a map illustrating sales distribution across different countries, enhancing the overall data analysis.

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