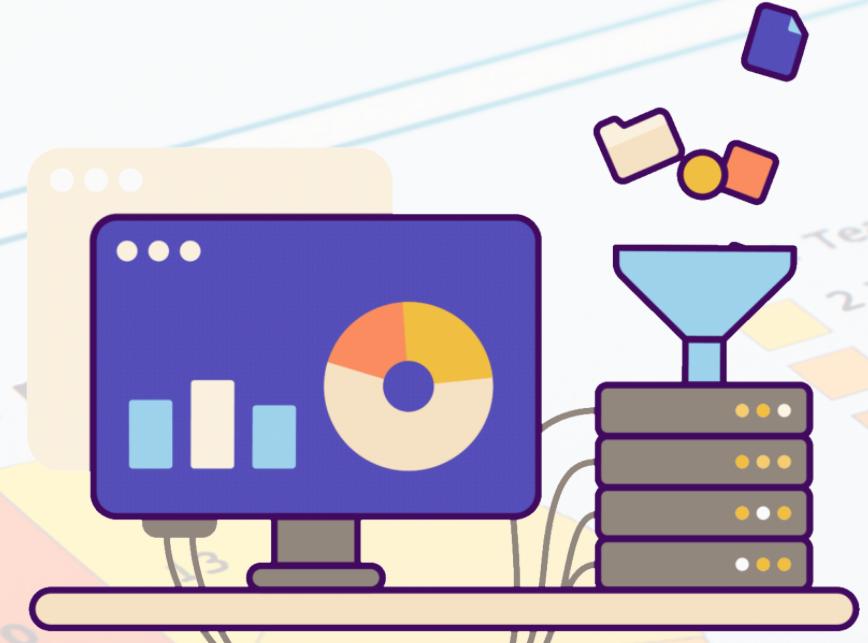


BUSINESS ANALYST CAREER PROGRAM

Captone Project

Created By-
Tejas Ratnaparkhi

WESTERN COUNTRIES FINANCIAL ANALYSIS



INTRODUCTION

In today's fast-paced business world, having a deep understanding of product sales performance is essential to stay competitive. This analysis leverages comprehensive financial data to evaluate the sales performance of various products, uncovering trends, patterns, and key insights. By meticulously analyzing sales metrics, customer behavior, and financial indicators, we aim to provide actionable recommendations that will help enhance revenue, optimize product portfolios, and inform strategic business decisions. This comprehensive analysis will help stakeholders make informed decisions and drive sustainable growth.

CONTENTS



01

**DATA
EXPLORATION**



02

**STATISTICAL
ANALYSIS
USING EXCEL**



03

**GRAPHICAL
ANALYSIS
USING EXCEL**



04

**INSERT THE
GIVEN DATA
INTO THE
SQL SERVER**



05

**IMPORT THE
DATA FROM THE
SQL DATABASE
INTO POWERBI**



06

**INTERACTIVE
DASHBOARD
BY USING
VISUALIZATION
TOOLS**



07

**CONCLUSION
AND
INFERENCES**



DATA EXPLORATION

The dataset consists of financial data for various products sold across different countries and market segments. The dataset contains 700 rows with 16 columns & contains columns like units sold, manufacturing and sale prices, discounts, and profit, allowing us to analyze sales performance by product, country, segment, and time period. The dataset used in this analysis is from the years 2013 (Sep - Dec) and 2014 (Jan - Dec).

Overview of the dataset

- Total Entries: 700
- Time Period: September 2013 to December 2014
- Segments: 5 unique segments
- Countries: 5 unique countries
- Products: 6 unique products

1. Country-wise Sales, Discounts, and Profit.

Country	Sum of Sales	Sum of Discounts	Sum of Profit
Canada	\$24.9M	\$2.0M	\$3.5M
France	\$24.4M	\$1.7M	\$3.8M
Germany	\$23.5M	\$1.4M	\$3.7M
Mexico	\$20.9M	\$1.8M	\$2.9M
United States of America	\$25.0M	\$2.2M	\$3.0M
Grand Total	\$118.7M	\$9.2M	\$16.9M

2. Segment-wise COGS and Units Sold.

Segment	Sum of COGS	Sum of Units Sold
Government	\$41.1M	470.7K
Small Business	\$38.3M	153.1K
Enterprise	\$20.2M	168.6K
Midmarket	\$1.7M	172.2K
Channel Partners	\$0.5M	161.3K
Grand Total	\$101.8M	1125.8K

3. Yearly Gross Sales, COGS & Profit.

Row Labels	Sum of Gross Sales	Sum of COGS	Sum of Profit
2013	\$28.6M	\$22.5M	\$3.9M
Qtr3	\$4.7M	\$3.7M	\$0.8M
Qtr4	\$23.8M	\$18.8M	\$3.1M
2014	\$99.4M	\$79.3M	\$13.0M
Qtr1	\$21.1M	\$16.9M	\$2.6M
Qtr2	\$24.5M	\$19.5M	\$3.2M
Qtr3	\$22.0M	\$17.6M	\$2.7M
Qtr4	\$31.8M	\$25.3M	\$4.4M
Grand Total	\$127.9M	\$101.8M	\$16.9M



DATA EXPLORATION

4. Product Performance.

Product	Average of Manufacturing Price	Average of Sale Price	Sum of Units Sold	Sum of Gross Sales	Sum of Discounts	Sum of Sales	Sum of Profit
Amarilla	\$260	\$128.7	155.3K	\$19.0M	\$1.3M	\$17.7M	\$2.8M
Carretera	\$3	\$111.8	146.8K	\$14.9M	\$1.1M	\$13.8M	\$1.8M
Montana	\$5	\$117.1	154.2K	\$16.5M	\$1.2M	\$15.4M	\$2.1M
Paseo	\$10	\$108.2	338.2K	\$35.6M	\$2.6M	\$33.0M	\$4.8M
Velo	\$120	\$115.2	162.4K	\$19.8M	\$1.6M	\$18.3M	\$2.3M
VTT	\$250	\$138.6	168.8K	\$22.0M	\$1.5M	\$20.5M	\$3.0M
Grand Total	\$96	\$118.4	1125.8K	\$127.9M	\$9.2M	\$118.7M	\$16.9M

5. Sales Distribution by Country and Product.

Sum of Sales	Column Label						
Country	Amarilla	Carretera	Montana	Paseo	Velo	VTT	Grand Total
Canada	3.25%	2.20%	2.28%	6.41%	2.80%	4.02%	20.96%
France	3.38%	2.88%	2.97%	4.71%	3.35%	3.21%	20.51%
Germany	3.34%	2.58%	3.00%	4.40%	3.70%	2.77%	19.80%
Mexico	2.59%	2.43%	1.64%	6.42%	1.90%	2.67%	17.65%
United States of America	2.39%	1.55%	3.07%	5.85%	3.62%	4.60%	21.08%
Grand Total	14.95%	11.64%	12.96%	27.80%	15.37%	17.28%	100.00%



DATA EXPLORATION

Summary

1. Country-wise Sales, Discounts, and Profit:

- Sales: The United States leads with \$25.0M in sales, followed by Canada (\$24.9M) and France (\$24.4M).
- Discounts: The United States also has the highest discounts given at \$2.2M, with Mexico having the least at \$1.8M.
- Profit: France has the highest profit at \$3.8M, while the United States and Canada follow with \$3.0M and \$3.5M respectively.

2. Segment-wise COGS and Units Sold:

- The Government segment has the highest COGS (\$41.1M) and the highest number of units sold (470.7K).
- Small Business and Enterprise segments have similar levels of units sold (153.1K and 168.6K, respectively) but differ in COGS (\$38.3M and \$20.2M, respectively).
- Midmarket and Channel Partners segments have the lowest COGS and units sold, with Midmarket showing \$1.7M in COGS and 172.2K units sold, and Channel Partners showing \$0.5M in COGS and 161.3K units sold.

3. Financial Performance:

Total gross sales were significantly higher in 2014 (\$99.4M) to 2013 (\$28.6M)

- The COGS also increased in 2014 (\$79.3M) compared to 2013 (\$22.5M), reflecting higher sales volume.
- Profit for 2014 was substantially higher (\$13M) than for 2013 (\$3.9M)

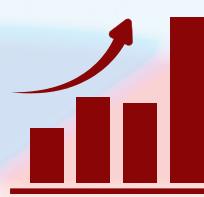
- There is consistent growth across all quarters in 2014, with Q4 having the highest sales & profit.

4. Product Performance:

- The manufacturing price varies significantly across products, with the lowest at \$3 (Carretera) and the highest at \$260 (Amarilla).
- Paseo is the top performer in terms of units sold (338.2K), gross sales (\$35.6M), and net sales (\$33.0M)
- The total gross sales are \$127.9M, with total sales (after discounts) being \$118.7M and total profit amounting to \$16.9M.

5. Sales Distribution by Country and Product:

- The United States is the largest market with 21.08% of total sales, followed closely by Canada (20.96%) and France (20.51%).
- Mexico has the smallest share at 17.65%.
- Paseo dominates across most countries, having the highest percentage of sales in the United States (3.07%) and Mexico (6.42%).
- Velo also performs well in Mexico (6.42%) and France (4.71%)



STATISTICAL ANALYSIS USING EXCEL

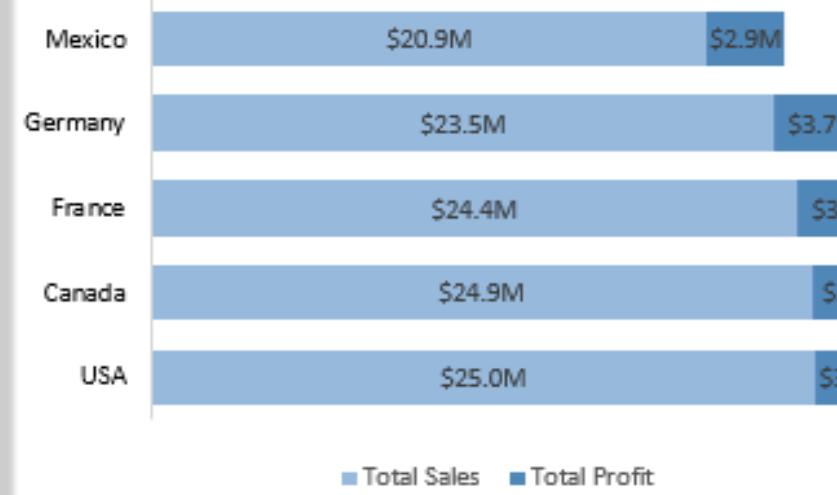
Descriptive Analysis								
Statistical Value	Units Sold	Manufacturing Price	Sale Price	Gross Sale	Discounts	Sales	COGS	Profit
Average (Mean)	1.61K	\$96	\$118	\$182.8K	\$13.15K	\$169.61K	\$145.48K	\$24.13K
Mode	727	\$10	\$20	\$37.1K	0	\$32,670	\$17.4K	\$10.0
Median	1.54K	\$10	\$20	\$38.0K	\$2.59K	\$35.54K	\$22.51K	\$9.24K
Sum	1.1M	\$0.1M	\$0.1M	\$127.9M	\$9.2M	\$118.7M	\$101.8M	\$16.9M
Maximum Value	4.49K	\$260	\$350	\$1207.5K	\$149.68K	\$1159.20K	\$950.63K	\$262.20K
Minimum Value	0.20K	\$3	\$7	\$1.8K	0	\$1.66K	\$0.92K	-\$40.62K
Range	4.29K	\$0.26K	\$0.34K	\$1205.70K	\$149.68K	\$1157.54K	\$949.71K	\$302.82K
Standard Deviation	0.87K	\$0.1K	\$0.1K	\$254.3K	\$22.96K	\$236.73K	\$203.87K	\$42.76K
Variance	752.43K	\$11.8K	\$18.7K	\$64649.3M	\$527.30M	\$56039.36M	\$41561.14M	\$1828.47M
First Quartile	0.91K	\$5	\$12	\$17.4K	\$0.80K	\$15.93K	\$7.49K	\$2.80K
Third Quartile	2.23K	\$250	\$300	\$282.7K	\$16.04K	\$262.07K	\$246.20K	\$22.66K
Corelation								
	Units Sold	Manufacturing Price	Sale Price	Gross Sales	Discounts	Sales	COGS	Profit
Units Sold	1							
Manufacturing Price	-0.03	1						
Sale Price	-0.07	0.07	1					
Gross Sales	0.33	0.05	0.81	1				
Discounts	0.25	0.02	0.64	0.78	1			
Sales	0.33	0.05	0.81	1.00	0.74	1		
COGS	0.33	0.05	0.80	0.99	0.78	0.99	1	
Profit	0.23	0.06	0.65	0.78	0.38	0.81	0.73	1



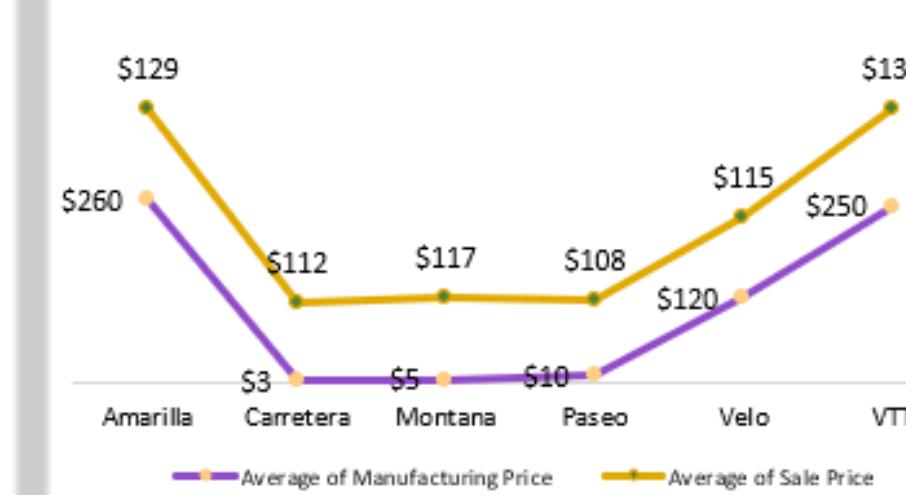
GRAPHICAL ANALYSIS USING EXCEL

GRAPHICAL ANALYSIS

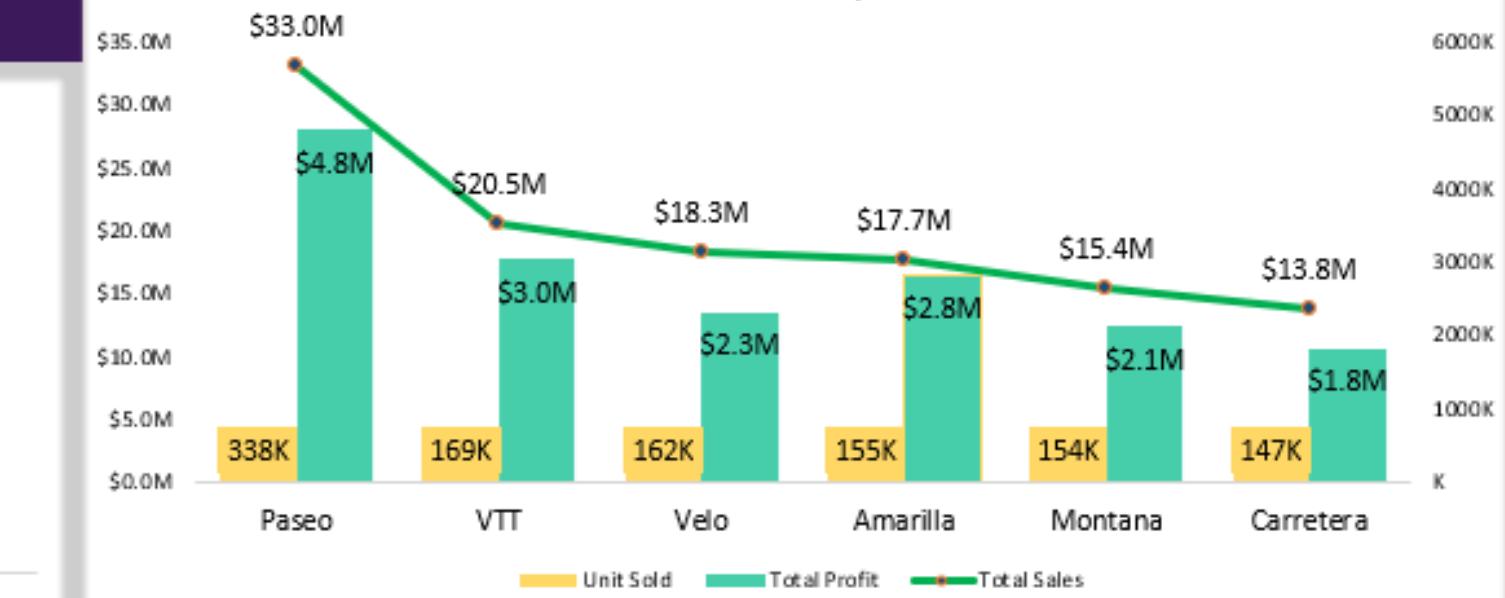
Country wise Sales & Profit



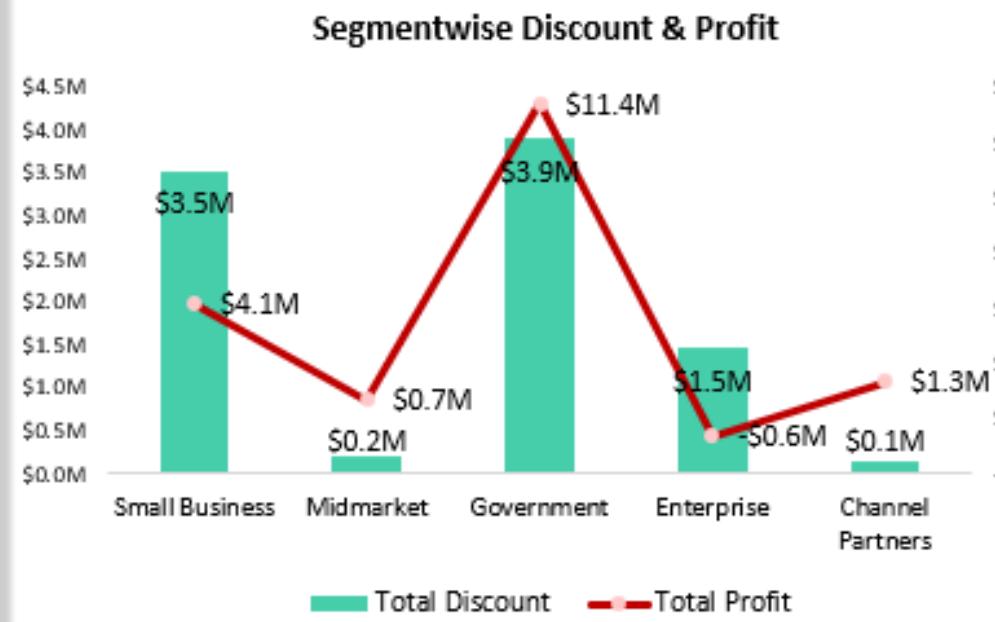
Product wise Avg Manufacturing Price & Sale Price



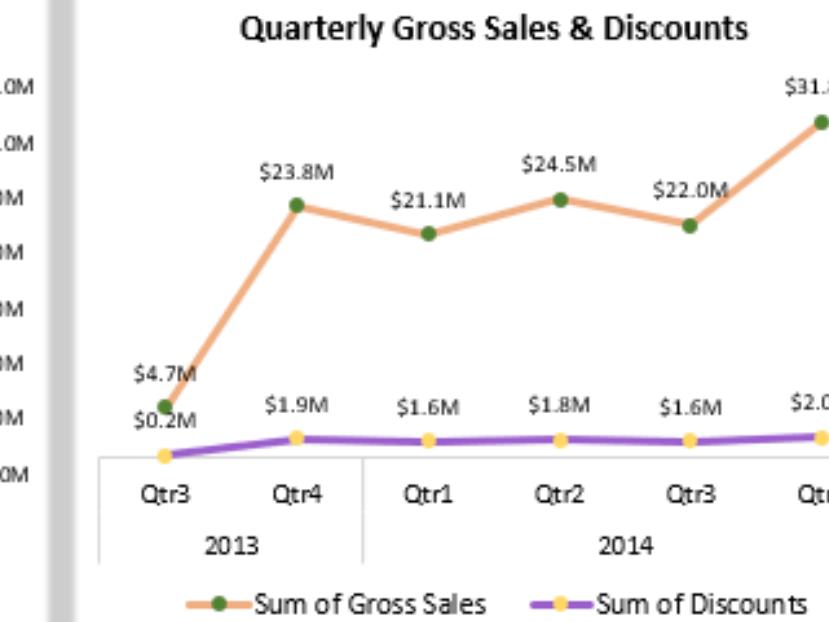
Product wise Unit Sold, Sales & Profit



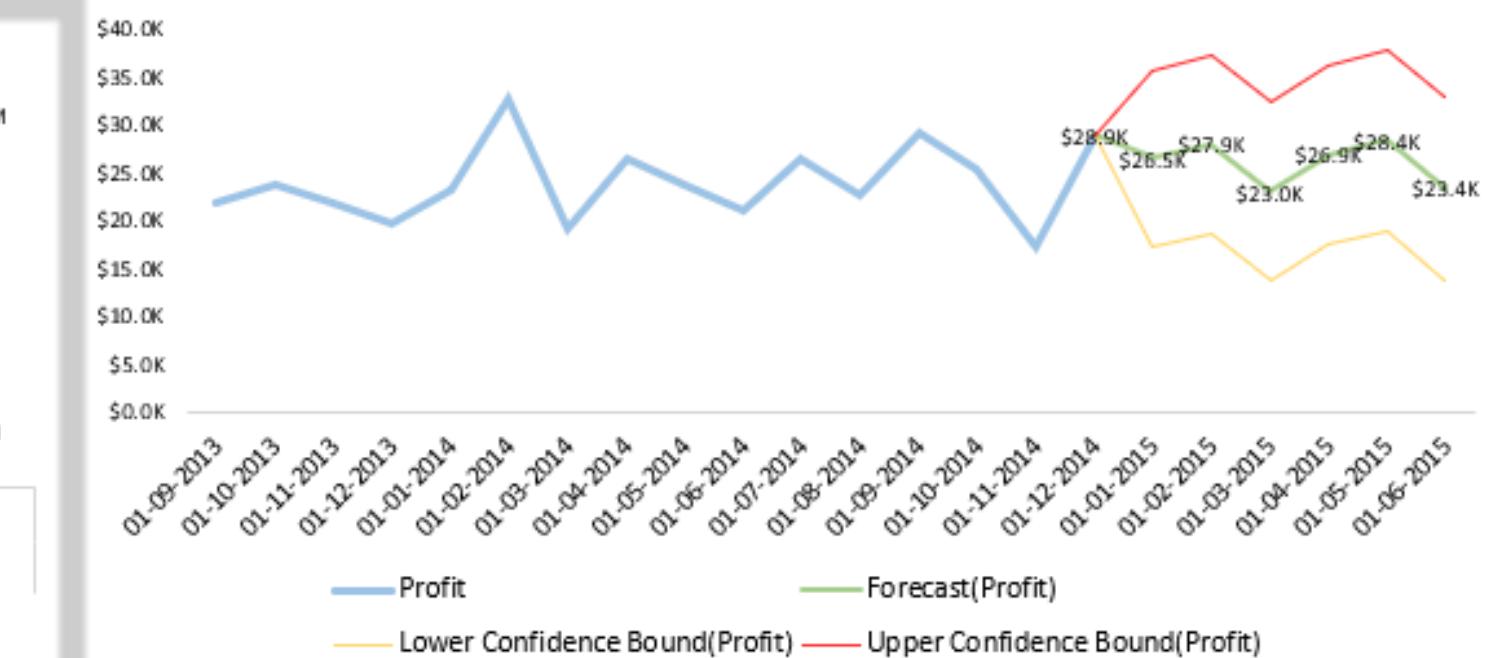
Segmentwise Discount & Profit



Quarterly Gross Sales & Discounts



Profit Forecasting





INSERT THE GIVEN DATA INTO THE SQL SERVER

Steps

1. Created new database "Capstone". Right-click on the schema and select "Table Data Import Wizard" option.
2. Selected the CSV file & follow the prompts to map columns and completed the import process

The screenshot shows the MySQL Workbench interface. In the top-left corner, there is a message: "1 • create database capstone;" with a status of "1 row(s) affected". The main area displays a list of schemas: hr, lms, pr, practice, projects, sakila, sys, and world. The "Information" tab is selected, showing "No object selected". The bottom section has an "Output" tab with a table showing the creation of the database:

#	Time	Action
1	22:08:00	create database capstone

The screenshot shows the "Table Data Import" wizard in MySQL Workbench. It consists of two overlapping windows. The top window is titled "Select File to Import" and shows the file path "C:\Users\Aum Sarthak\Downloads\Western Countries Financial Data.csv". The bottom window is titled "Select Destination" and shows the schema "capstone" and table "project" selected for creation. Both windows have "Next >" and "Cancel" buttons at the bottom.



INSERT THE GIVEN DATA INTO THE SQL SERVER

Running few queries to verify that data is properly imported.

Screenshot of MySQL Workbench showing the 'Table Data Import' dialog. The 'Configure Import Settings' tab is selected, showing import settings for a CSV file named 'Western Countries Financial Data.csv'. The 'Detected file format: csv' section shows 'Encoding: utf-8'. The 'Columns' section lists fields: Segment, Country, Product, Discount_Band, Units_Sold, Manufacturing_Price, Sale_Price, Gross_Sales, Discounts, and Sales. The 'Schema: capstone' is selected. A preview of the data is shown in a grid:

Segment	Country	Product	Discount_Band	Units_Sold	Manufacturing_Price	Sale_Price	Gross_Sales	Discounts	Sales
Government	Canada	Carretera	None	1619	\$20	\$32,370	\$0	\$32,370	
Government	Germany	Carretera	None	1321	\$20	\$26,420	\$0	\$26,420	
Midmarket	France	Carretera	None	2178	\$20	\$32,670	\$0	\$32,670	
Midmarket	Germany	Carretera	None	888	\$20	\$13,320	\$0	\$13,320	
Midmarket	Mexico	Carretera	None	2470	\$20	\$37,050	\$0	\$37,050	
Government	Germany	Carretera	None	1513	\$20	\$29,550	\$0	\$29,550	
Midmarket	Germany	Montana	None	921	\$20	\$18,150	\$0	\$18,150	
Channel Partners	Canada	Montana	None	2518	\$20	\$30,216	\$0	\$30,216	
Government	France	Montana	None	1899	\$20	\$37,980	\$0	\$37,980	
Channel Partners	Germany	Montana	None	1545	\$20	\$18,540	\$0	\$18,540	
Midmarket	Mexico	Montana	None	2470	\$20	\$37,050	\$0	\$37,050	
Enterprise	Canada	Montana	None	2665.5	\$20	\$33,187.5	\$0	\$33,187.5	
Small Business	Mexico	Montana	None	958	\$20	\$28,740	\$0	\$28,740	
Government	Germany	Montana	None	2146	\$20	\$15,022	\$0	\$15,022	
Enterprise	Canada	Montana	None	345	\$20	\$43,125	\$0	\$43,125	
Midmarket	United States	Montana	None	615	\$20	\$9,225	\$0	\$9,225	
Government	Canada	Paseo	None	292	\$20	\$5,840	\$0	\$5,840	
Midmarket	Mexico	Paseo	None	974	\$20	\$14,610	\$0	\$14,610	

The 'Import Results' tab shows the successful import of 700 records from 'Western Countries Financial Data.csv' into the 'project' table in the 'capstone' schema.

Screenshot of MySQL Workbench showing the results of several queries to verify the imported data.

Query 21: `select * from project;`

Result Grid:

Segment	Country	Product	Discount_Band	Units_Sold	Manufacturing_Price	Sale_Price	Gross_Sales	Discounts	Sales	COGS	Profit	Date	Month_Number	Month_Name	Year
Government	Canada	Carretera	None	1619	\$20	\$32,370	\$0	\$32,370	32370	16185	16180	1	January	2014	
Government	Germany	Carretera	None	1321	\$20	\$26,420	\$0	\$26,420	26420	13210	13210	1	January	2014	
Midmarket	France	Carretera	None	2178	\$20	\$32,670	\$0	\$32,670	32670	21780	21780	1	January	2014	
Midmarket	Germany	Carretera	None	888	\$20	\$13,320	\$0	\$13,320	13320	8880	8880	1	January	2014	
Midmarket	Mexico	Carretera	None	2470	\$20	\$37,050	\$0	\$37,050	37050	24700	24700	1	January	2014	
Government	Germany	Carretera	None	1513	\$20	\$29,550	\$0	\$29,550	29550	193380	193380	1	January	2014	
Midmarket	Germany	Montana	None	921	\$20	\$18,150	\$0	\$18,150	18150	9210	4605	1	January	2014	
Channel Partners	Canada	Montana	None	2518	\$20	\$30,216	\$0	\$30,216	30216	7554	22662	41791	6	June	2014
Government	France	Montana	None	1899	\$20	\$37,980	\$0	\$37,980	37980	18990	18990	1	January	2014	
Channel Partners	Germany	Montana	None	1545	\$20	\$18,540	\$0	\$18,540	18540	4635	13905	41791	6	June	2014
Midmarket	Mexico	Montana	None	2470	\$20	\$37,050	\$0	\$37,050	37050	24700	24700	1	January	2014	
Enterprise	Canada	Montana	None	2665.5	\$20	\$33,187.5	\$0	\$33,187.5	333187.5	319860	13327.5	41821	7	July	2014
Small Business	Mexico	Montana	None	958	\$20	\$28,740	\$0	\$28,740	287400	47900	41852	8	August	2014	
Government	Germany	Montana	None	2146	\$20	\$15,022	\$0	\$15,022	15022	10730	4292	41883	9	September	2014
Enterprise	Canada	Montana	None	345	\$20	\$43,125	\$0	\$43,125	43125	41400	1725	41548	10	October	2013
Midmarket	United States	Montana	None	615	\$20	\$9,225	\$0	\$9,225	9225	6150	3075	41974	12	December	2014
Government	Canada	Paseo	None	292	\$20	\$5,840	\$0	\$5,840	5840	2920	2920	2	February	2014	
Midmarket	Mexico	Paseo	None	974	\$20	\$14,610	\$0	\$14,610	14610	9740	4870	41671	2	February	2014

Query 24: `select * from project;`

Result Grid:

Year	Total_Sales
2014	92311094.7499999
2013	26415255.5100001

Query 35: `SELECT Year, SUM(Sales) AS Total_Sales FROM project GROUP BY Year;`

Result Grid:

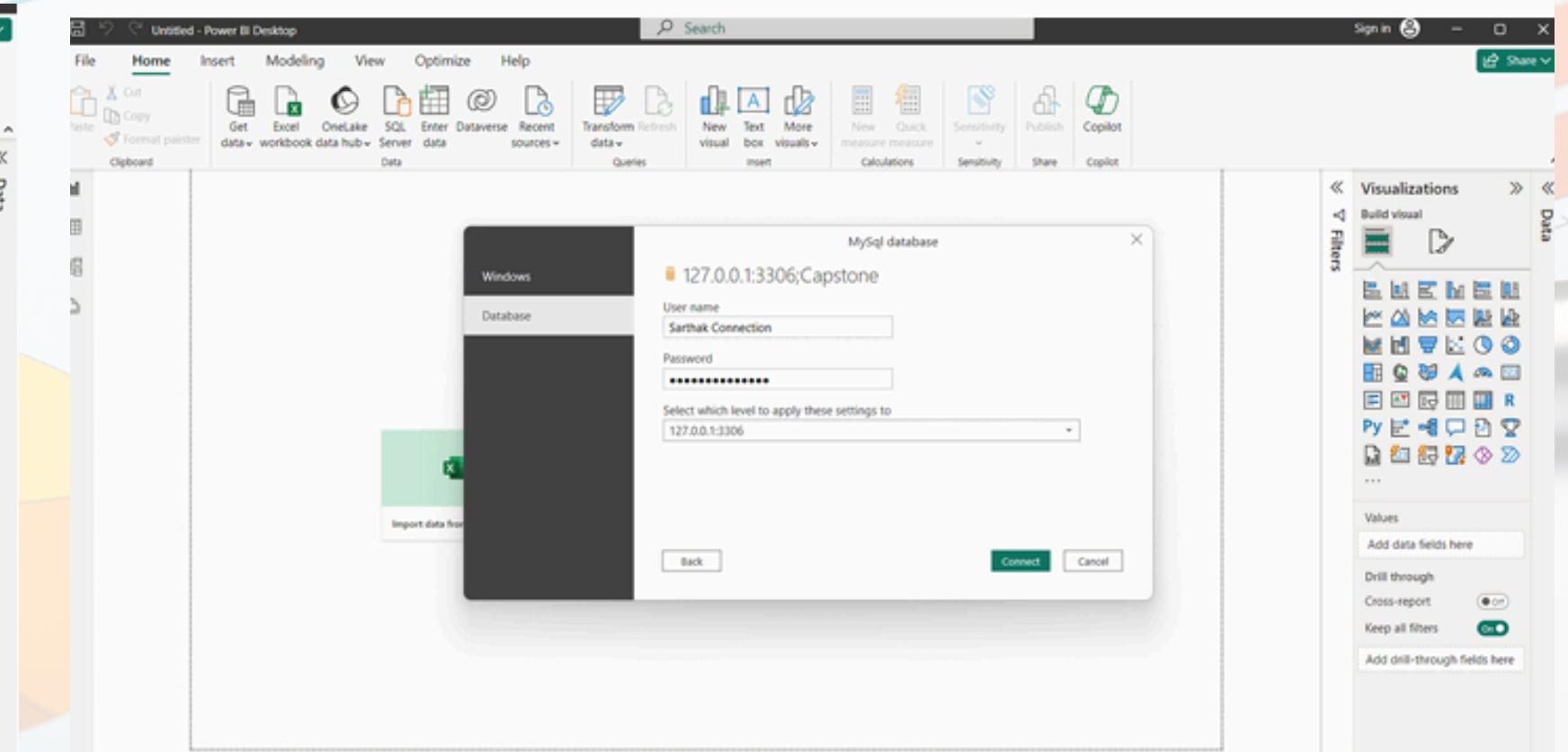
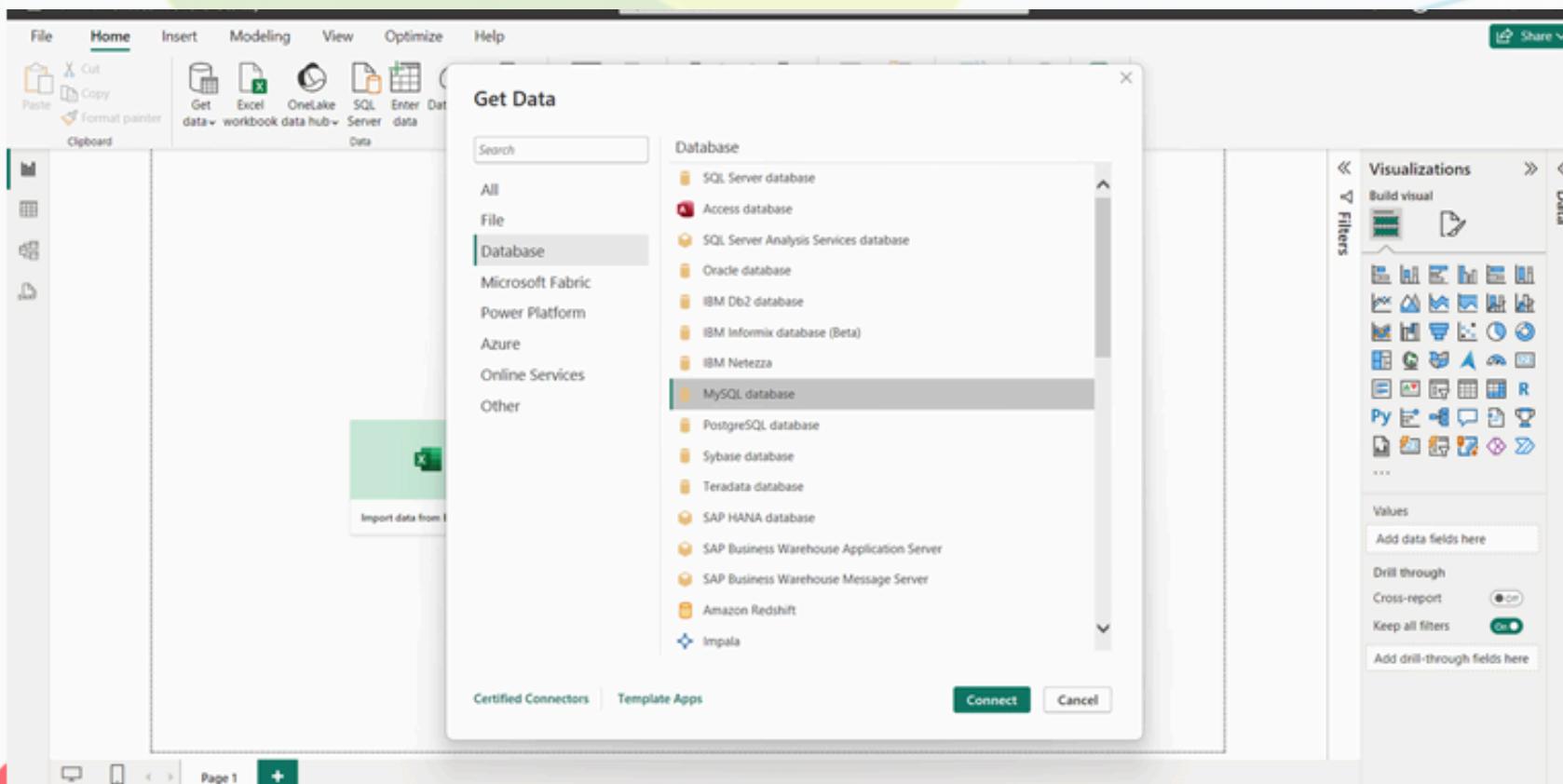
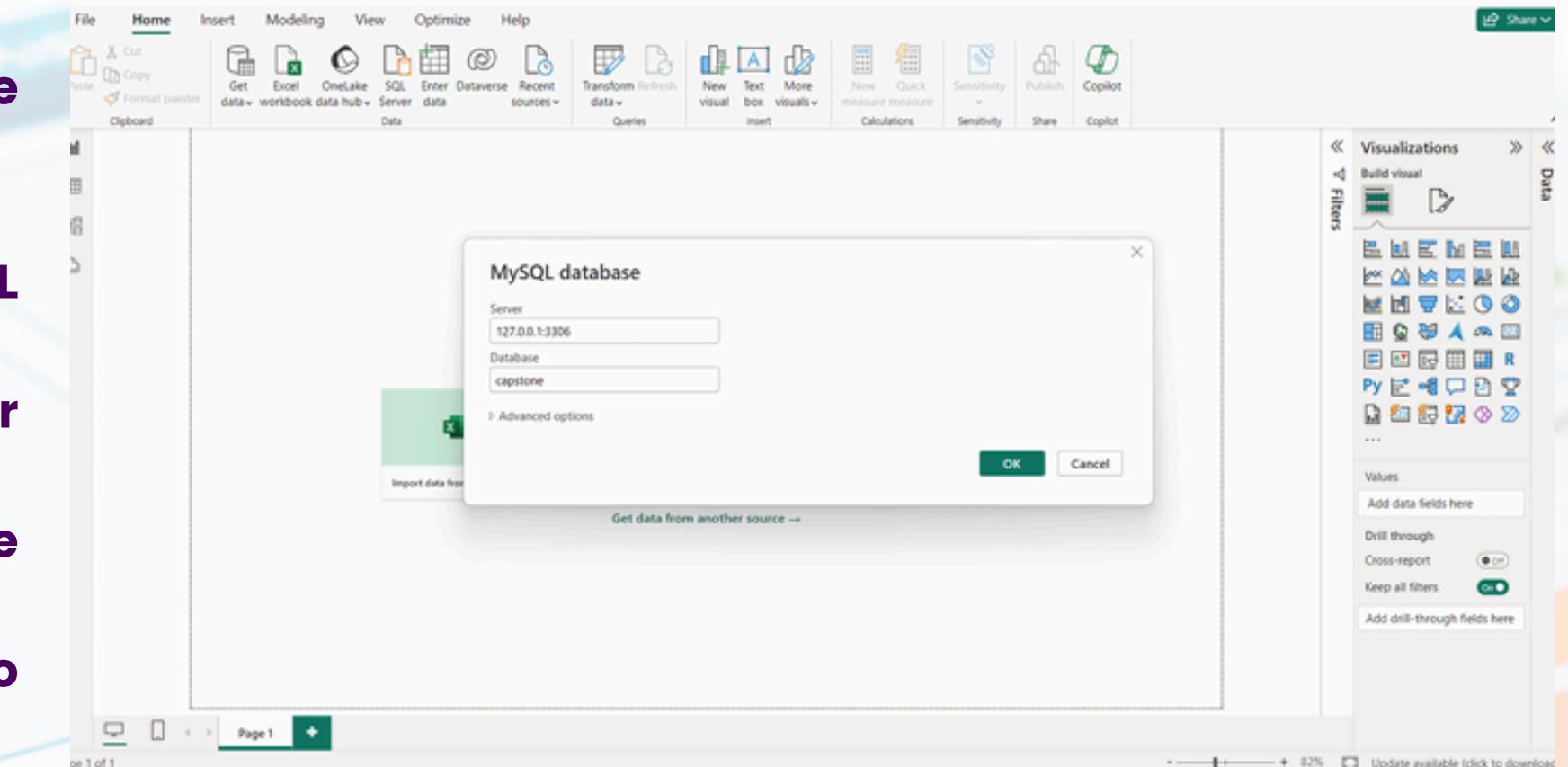
Year	Total_Sales
2014	92311094.7499999
2013	26415255.5100001



IMPORT THE DATA FROM THE SQL DATABASE INTO POWERBI

Steps-

1. Firstly, I download & install MySQL connector for the connection.
2. Open PowerBI Desktop & click on 'Get Data' option.
3. In the list of data sources, select 'Database' & choose 'MySQL database' from the list and click 'Connect'
4. In the MySQL database connection window, enter the server name & database name.
5. In database option, enter your MySQL database username and password and select connect option.
6. In Navigator, Select Load option & data is imported into Power Query Editor.





IMPORT THE DATA FROM THE SQL DATABASE INTO POWERBI

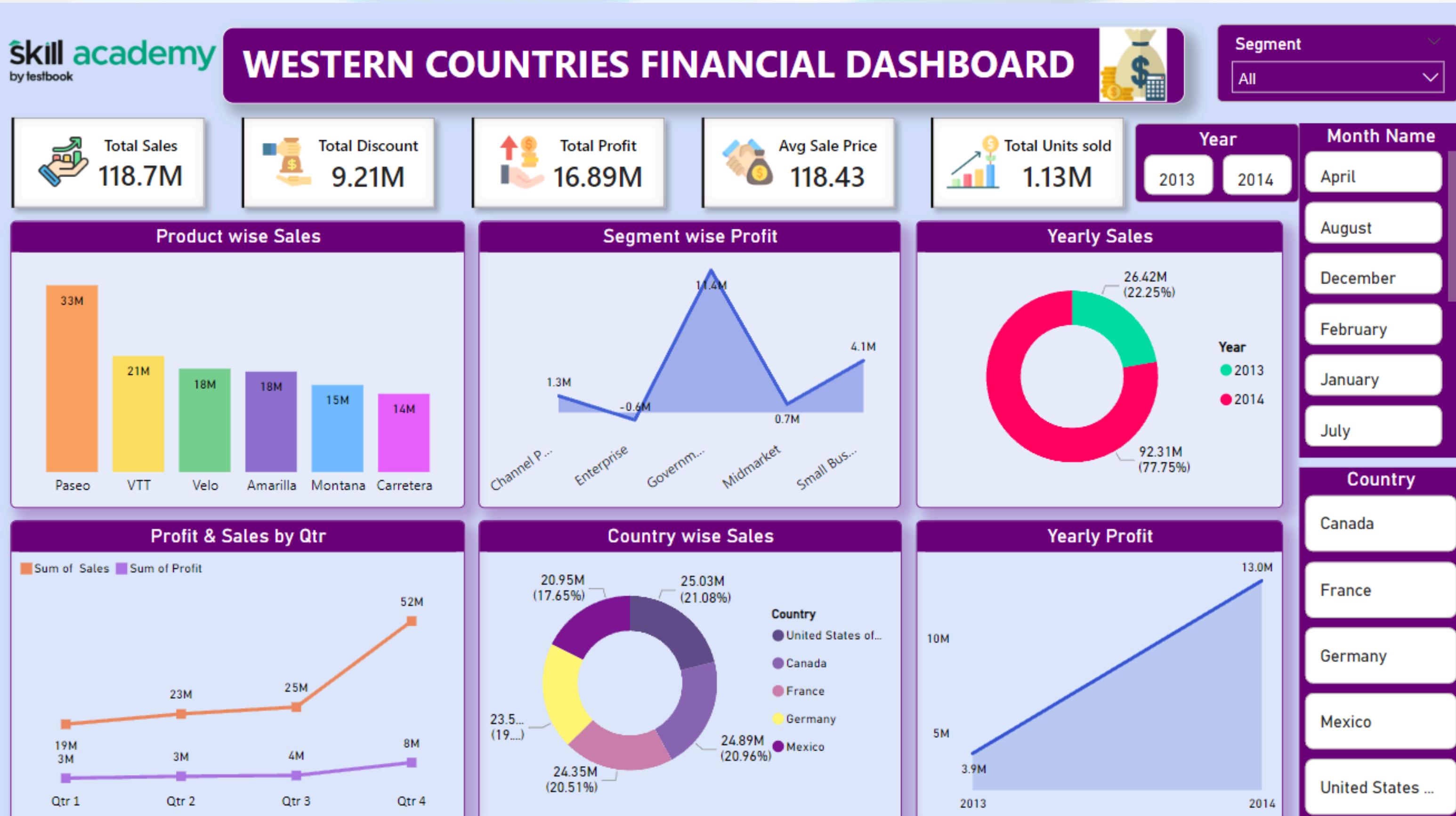
Data cleaning & other operations in Query Editor

1. In Power Query Editor, perform Data cleaning and other possible operations on data using query editor.
2. Click on View option from the Home tab & check the boxes of 'Column Quality', 'Column Distribution', and 'Column Profile'. Column Quality pane shows the percentage of valid, error, and empty values in each column. Column Distribution pane provides a histogram of the distribution of values in each column. Column Profile pane provides a more detailed statistical summary of the selected column, including count, distinct count, empty count, and value distribution.

3. Select close & apply option. Data is loaded in the fields pane



INTERACTIVE DASHBOARD BY USING VISUALIZATION TOOLS





INTERACTIVE DASHBOARD BY USING VISUALIZATION TOOLS

Skill academy by testbook

WESTERN COUNTRIES FINANCIAL DASHBOARD

Segment: All

Total Sales
118.7M

Total Discount
9.21M

Total Profit
16.89M

Avg Sale Price
118.43

Total Units sold
1.13M

Year
2013
2014

Month Name
April
August
December
February
January
July

Country
Canada
France
Germany
Mexico
United States ...

Product wise Discount

Product	Discount
Paseo	2.6M
Velo	1.6M
VTT	1.5M
Amarilla	1.3M
Montana	1.2M
Carretera	1.1M

Top 2 Countries Sales wise

Country	Sales
United States of America	25,029.8K
Canada	24,887.7K

Yearly units sold

2013: 264.67K (23.51%)
2014: 861.13K (76.49%)

Bottom 3 Prod. Sales wise

Product	Sales
Amarilla	17,747.1K
Carretera	13,815.3K
Montana	15,390.8K

Segment wise Product Sales

Segment	Amarilla	Carretera	Montana	Paseo	Velo	VTT	Tot
Government	9,942.9K	6,080.9K	5,548.9K	14,882.2K	7,813.4K	8,235.8K	1,13M
Small Business	4,594.3K	3,910.5K	6,674.9K	11,498.8K	6,408.0K	9,341.4K	1,13M
Enterprise	2,643.6K	3,203.7K	2,614.8K	5,267.9K	3,581.2K	2,300.4K	1,13M
Midmarket	248.7K	337.3K	290.2K	907.7K	264.5K	333.4K	1,13M
Channel Partners	317.6K	282.8K	261.8K	454.5K	182.9K	300.8K	1,13M
Total	17,747.1K	13,815.3K	15,390.8K	33,011.1K	18,250.1K	20,511.9K	1,13M

Segment wise Product Profit

Segment	Amarilla	Carretera	Montana	Paseo	Velo	VTT	Tot
Channel Partners	230.1K	208.4K	192.5K	331.8K	134.3K	219.8K	1,13M
Enterprise	-95.2K	-222.7K	-31.1K	-81.7K	-84.8K	-99.1K	-4,13M
Government	2,208.3K	1,399.0K	1,126.2K	3,057.3K	1,756.7K	1,840.7K	11,3M
Midmarket	63.6K	94.1K	83.9K	258.7K	68.7K	91.1K	1,13M
Small Business	407.3K	348.0K	743.3K	1,231.3K	431.1K	982.2K	4,13M
Total	2,814.1K	1,826.8K	2,114.8K	4,797.4K	2,306.0K	3,034.6K	16,3M



CONCLUSION AND INFERENCES

1. Strong Sales Performance:

- Paseo is the highest-selling product, contributing significantly to overall sales.
- The USA and Canada are the top-performing countries in terms of sales, highlighting key markets for the company.

2. Profitability Insights:

- The Enterprise and Government segments are highly profitable, especially for specific products like Amarilla.
- Some segments, particularly Enterprise, show negative profits for certain products, indicating areas for cost optimization or strategic reevaluation.

5. Market and Product Focus:

- Focusing on high-performing products and profitable segments can drive further growth.
- There is potential for improving performance in low-profit or loss-making segments and products through targeted strategies.

3. Discount Strategy:

- Paseo receives the highest discount, which may be a strategy to boost its sales. However, the impact of this discount on overall profitability should be carefully analyzed.

4. Year-over-Year Growth:

- There is a notable increase in sales, units sold, and profit from 2013 to 2014, demonstrating strong growth and market expansion.
- The upward trend in quarterly sales and profit indicates consistent performance improvement.