Sales Dashboard for E-commerce Business

Project Management (How to distribute roles and manage the team, contain project timeline and milestone)

12-12-2024 / 14-12-2024: Data exploration and modeling
15-12-2024 / 17-12-2024 : Data transformation
18-12-2-24 / 22-12-2024 : Creation of Initial Visuals
23-12-2024 / 24-12-2024 : Create Dax measure and Final Demo Preparation.

Goal of project

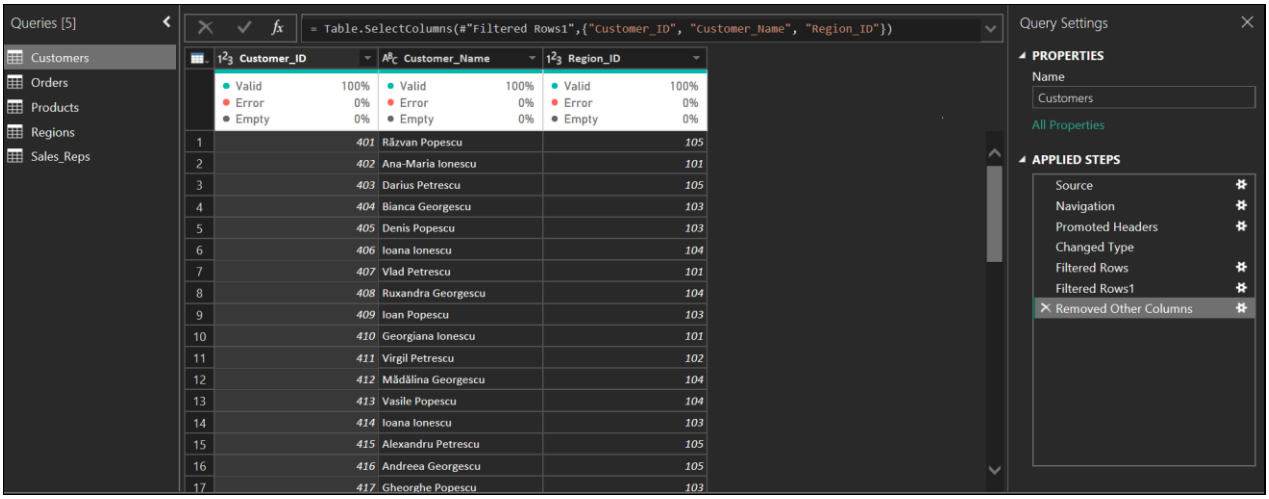
Build an insightful dashboard to analyze sales data and provide actionable insights for sales improvements.
Data Exploration: explore data dynamically, allowing for analysis and exploration to answer specific business questions.
Define Key Performance Indicators (KPIs): Identify and establish relevant KPIs such as total sales, total profit and average order value This will help track performance and measure success.
Data Visualization: Create compelling and informative visual representations of data to facilitate better understanding and decision-making

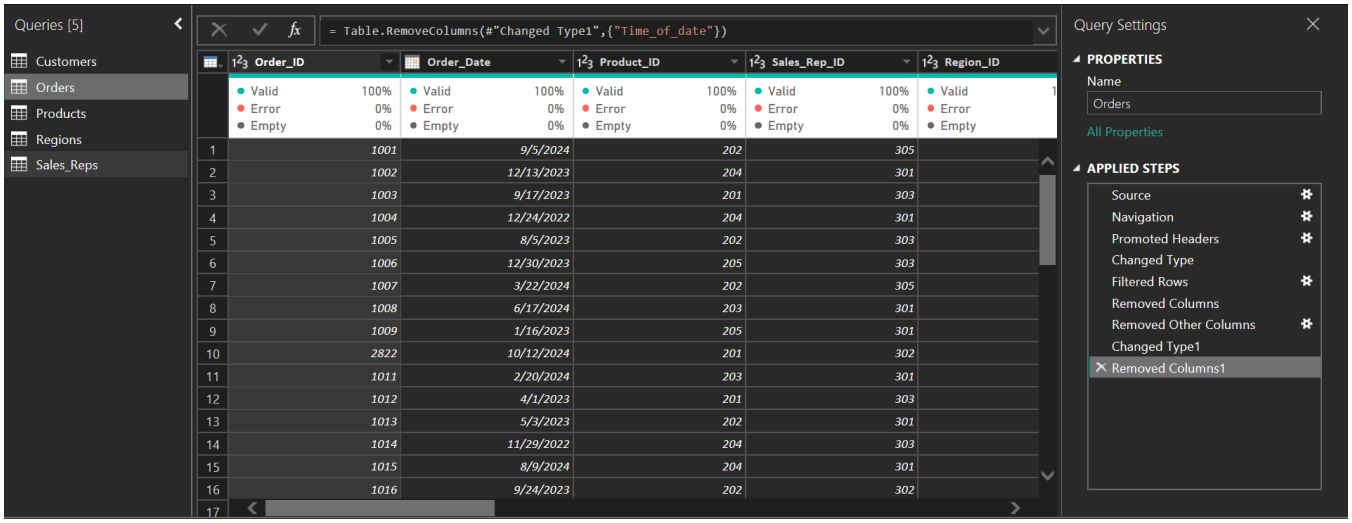
- **Visualize Sales Trends**: Aim to create visual representations of sales trends over time, allowing stakeholders to easily identify patterns, seasonal fluctuations, and growth opportunities.
- **Highlight Regional Performance**: Incorporate geographic visualizations to display sales by region, helping to identify high-performing areas and regions that may require additional support or marketing efforts.

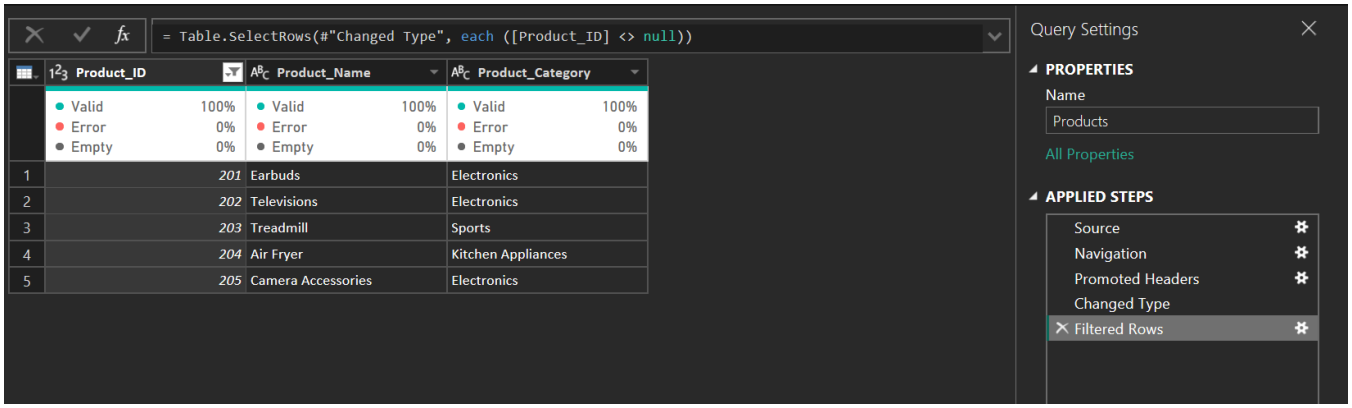
Dataset description

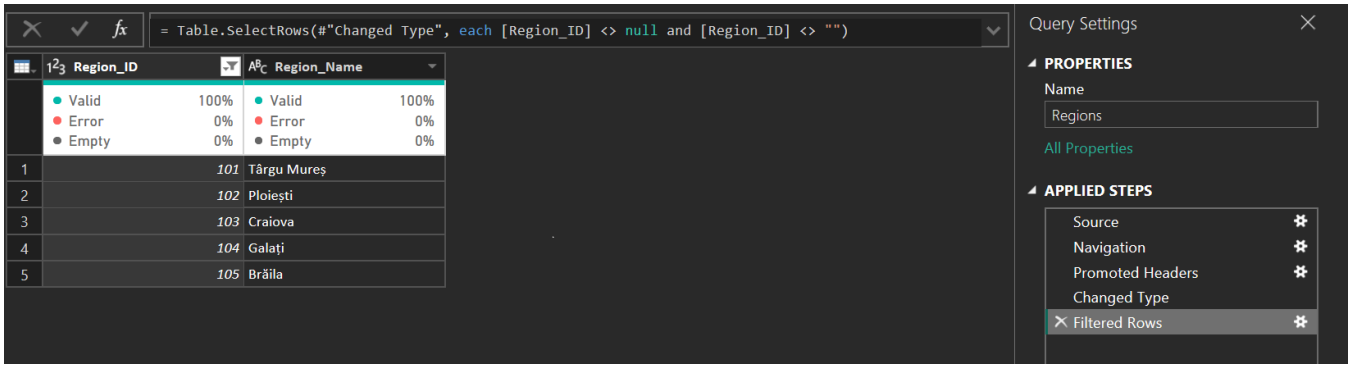
Dataset has 5 tables ->
order Data: This includes transaction details such as order ID, date of purchase, total sales amount, unit price and profit , Analyzing sales trends can help identify peak purchasing times and overall revenue performance.
Customer Information: The dataset should contain customer demographics, including customer ID ,name and region.
Product Details: This section includes product ID, name and category.
Region Details : Data on regions include region ID, name.
Sales rep information : Data include sales rep name,id and hire date **.**

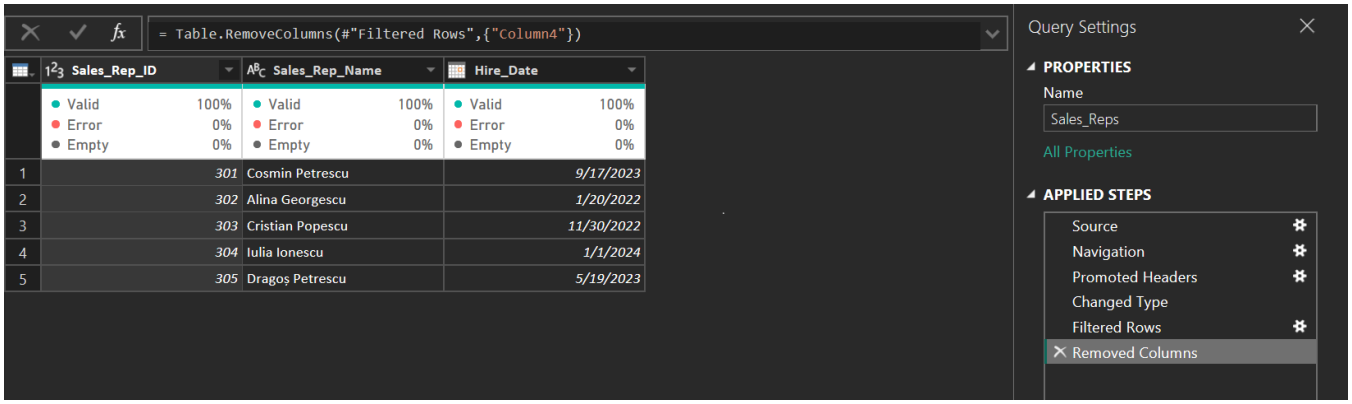
Dataset Preprocessing (Load Transform)


Queries [5]
Customers
Orders
Products
Regions
Sales_Reps
= Table.SelectColumns(#"Filtered Rows1",{"Customer_ID", "Customer_Name", "Region_ID"})
Customer_ID
Customer_Name
Region_ID
Valid 100%
Error 0%
Empty 0%
1 401 Răzvan Popescu 105
2 402 Ana-Maria Ionescu 101
3 403 Darius Petrescu 105
4 404 Bianca Georgescu 103
5 405 Denis Popescu 103
6 406 Ioana Ionescu 104
7 407 Vlad Petrescu 101
8 408 Ruxandra Georgescu 104
9 409 Ioan Popescu 103
10 410 Georgiana Ionescu 101
11 411 Virgil Petrescu 102
12 412 Mădălina Georgescu 104
13 413 Vasile Popescu 104
14 414 Ioana Ionescu 103
15 415 Alexandru Petrescu 105
16 416 Andreea Georgescu 105
17 417 Gheorghe Popescu 103
Query Settings
PROPERTIES
Name
Customers
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Filtered Rows
Filtered Rows1
Removed Other Columns

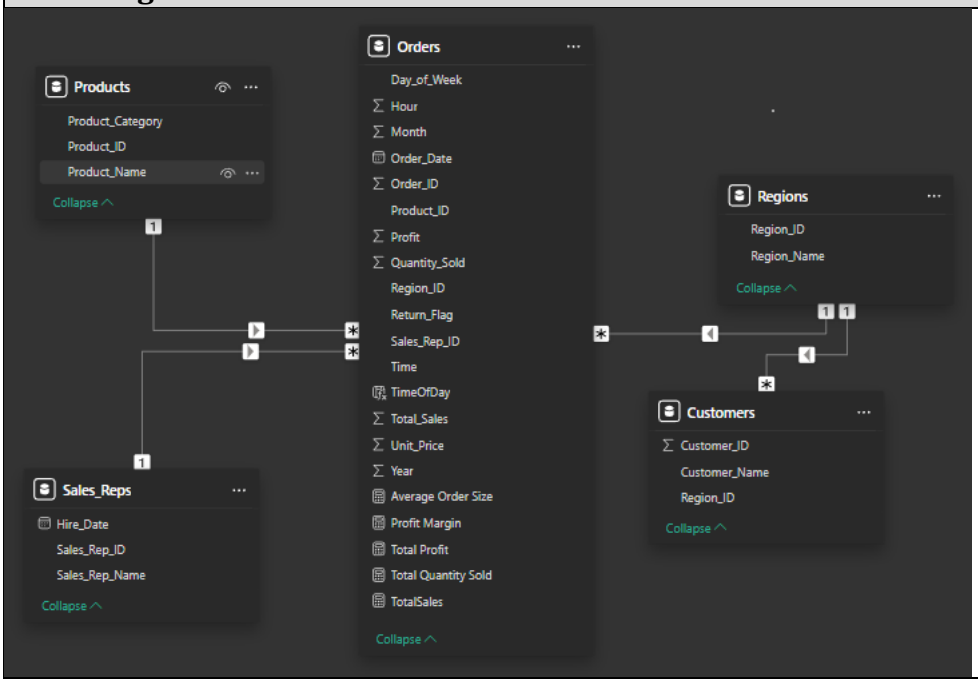

Queries [5]
Customers
Orders
Products
Regions
Sales_Reps
= Table.RemoveColumns(#"Changed Type1",{"Time_of_date"})
Order_ID
Order_Date
Product_ID
Sales_Rep_ID
Region_ID
Valid 100%
Error 0%
Empty 0%
1 1001 9/5/2024 202 305
2 1002 12/13/2023 204 301
3 1003 9/17/2023 201 303
4 1004 12/24/2022 204 301
5 1005 8/5/2023 202 303
6 1006 12/30/2023 205 303
7 1007 3/22/2024 202 305
8 1008 6/17/2024 203 301
9 1009 1/16/2023 205 301
10 2822 10/12/2024 201 302
11 1011 2/20/2024 203 301
12 1012 4/1/2023 201 303
13 1013 5/3/2023 202 301
14 1014 11/29/2022 204 303
15 1015 8/9/2024 204 301
16 1016 9/24/2023 202 302
Query Settings
PROPERTIES
Name
Orders
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Filtered Rows
Removed Columns
Removed Other Columns
Changed Type1
Removed Columns1


= Table.SelectRows(#"Changed Type", each ([Product_ID] <> null))
Product_ID
Product_Name
Product_Category
Valid 100%
Error 0%
Empty 0%
1 201 Earbuds Electronics
2 202 Televisions Electronics
3 203 Treadmill Sports
4 204 Air Fryer Kitchen Appliances
5 205 Camera Accessories Electronics
Query Settings
PROPERTIES
Name
Products
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Filtered Rows


= Table.SelectRows(#"Changed Type", each [Region_ID] <> null and [Region_ID] <> "")
Region_ID
Region_Name
Valid 100%
Error 0%
Empty 0%
1 101 Târgu Mureș
2 102 Ploiești
3 103 Craiova
4 104 Galați
5 105 Brăila
Query Settings
PROPERTIES
Name
Regions
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Filtered Rows


= Table.RemoveColumns(#"Filtered Rows",{"Column4"})
Sales_Rep_ID
Sales_Rep_Name
Hire_Date
Valid 100%
Error 0%
Empty 0%
1 301 Cosmin Petrescu 9/17/2023
2 302 Alina Georgescu 1/20/2022
3 303 Cristian Popescu 11/30/2022
4 304 Iulia Ionescu 1/1/2024
5 305 Dragoș Petrescu 5/19/2023
Query Settings
PROPERTIES
Name
Sales_Reps
All Properties
APPLIED STEPS
Source
Navigation
Promoted Headers
Changed Type
Filtered Rows
Removed Columns

Modeling

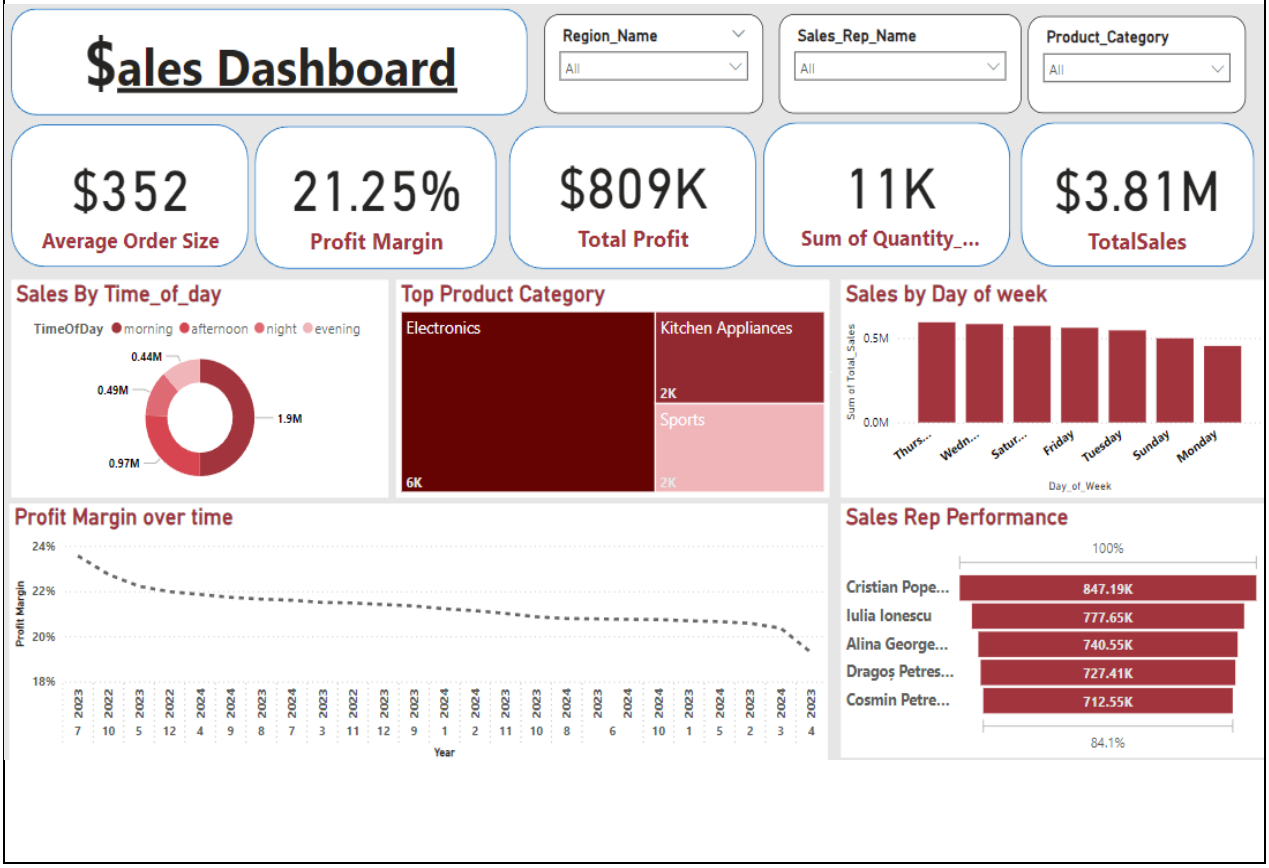

Products
Product_Category
Product_ID
Product_Name
Collapse
Orders
Day_of_Week
Hour
Month
Order_Date
Order_ID
Product_ID
Profit
Quantity_Sold
Region_ID
Return_Flag
Sales_Rep_ID
Time
TimeOfDay
Total_Sales
Unit_Price
Year
Average Order Size
Profit Margin
Total Profit
Total Quantity Sold
TotalSales
Collapse
Regions
Region_ID
Region_Name
Collapse
Customers
Customer_ID
Customer_Name
Region_ID
Collapse
Sales_Reps
Hire_Date
Sales_Rep_ID
Sales_Rep_Name
Collapse

Visualization (Visuals)

- **Profit Margin Analysis**: A line chart showing profit margins over time.
- **Sales Rep Performance**: chart showing sales reps by their total sales.
- **Top products Category by total sales**
- **Time-Based Sales Analysis**:
  - **Sales by day of the week** to determine peak days
  - **Sales by time of day** (morning, afternoon, evening, night)

**** Interactive Filtering & Slicers**

- Product Category
- Region name
- Sales Rep name



DAX Measures

New Measure :->

total sales : provides a snapshot of overall business performance

total profit : The net income after deducting all expenses from total sales

Profit Margin : It indicates the percentage of revenue that exceeds the costs of goods sold

average order value : Calculated by dividing total sales by the number of orders

Total Quantity Sold : total number of units sold over a period

New Column :->

'Time of day' Column based on 'Hour' column .

Conclusion

Build an insightful dashboard to analyze sales data and provide actionable insights for sales improvements.

Text Area

Final Demo (URL in Google Drive)