Sustainable Supply Chain Performance Dashboard in Power BI

Introduction

This project involves creating a Sustainable Supply Chain Performance Dashboard using Power BI. The main goal is to understand supply chain processes and use data analysis to gain meaningful insights for better decision-making.

Data Analysis and Supply Chain

Data analysis is the process of examining, cleaning, and transforming data to uncover useful insights.

In supply chains, data analysis helps:

- Manage inventory efficiently.
- Identify operational bottlenecks.
- Improve supplier performance.
- Increase overall productivity and sustainability.

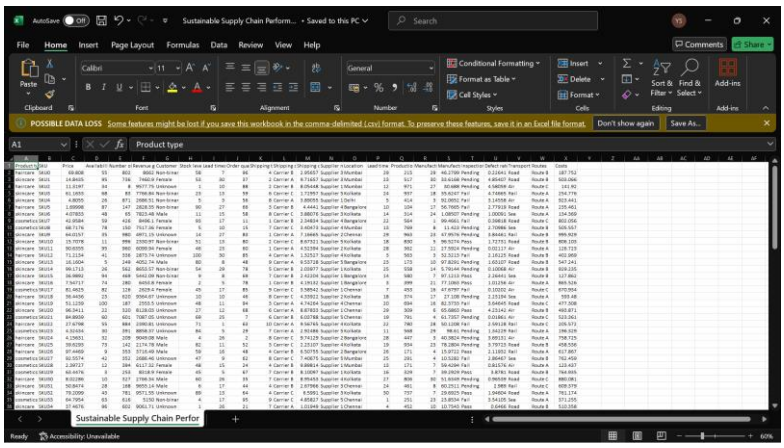
Datasets

Datasets are critical for analysis and can be sourced from:

- Online platforms like Kaggle or GitHub.
- Company systems such as ERP tools.
- Public datasets related to supply chains.

For this project, we used a CSV file.

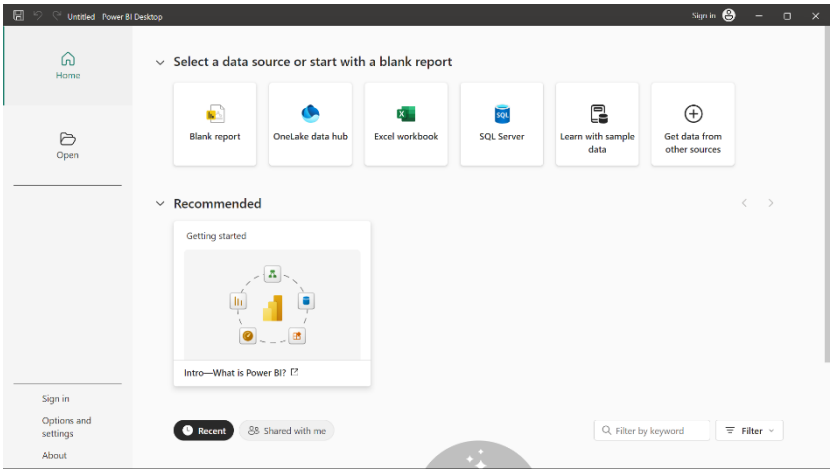
Common formats include CSV, Excel, JSON, or SQL exports.



Process

Analysis Tool: Power BI is used in this project because it is:

- Easy to use for both beginners and professionals.
- Capable of handling various data types.
- Great for creating interactive dashboards.



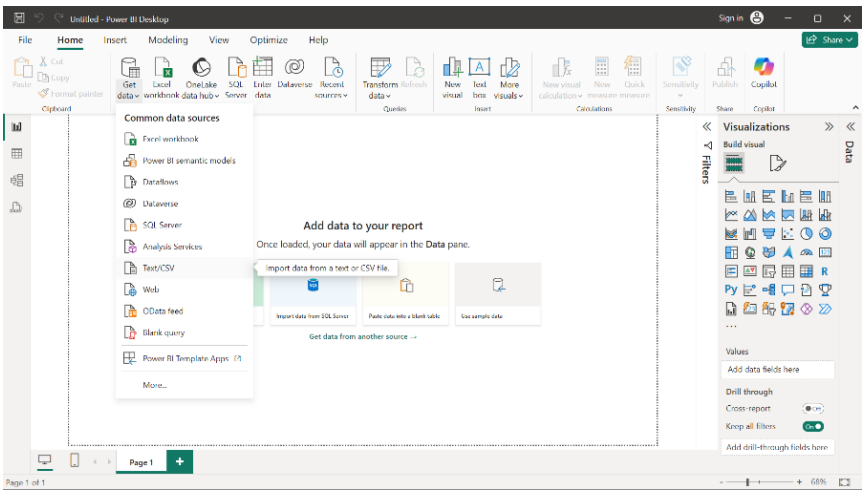
Steps in Power BI

Getting Started:

1. Download Power BI Desktop from the official website.
2. Launch Power BI and use the Get Started menu.

Importing Data:

1. Go to the Home tab and click Get Data.
2. Select the CSV file and load the dataset into Power BI.
3. Ensure the dataset is ready and saved locally.



In the Power BI Desktop it consists of 3 view:

> **Report View:** Design and visualize your data through interactive charts, graphs, and visuals.

> **Data (Table) View:** Inspect and manage the underlying data tables used in your reports.

> **Model View:** Define and explore the relationships between your data tables.

ETL Process (Extract, Transform, Load)

Steps

1. **Extract:** Import the dataset (e.g., CSV file).
2. **Transform:** Clean and prepare the data for analysis. i.e Removes duplicates, handles null values, renaming columns, etc.
3. **Load:** Load the cleaned data into Power BI for visualization.

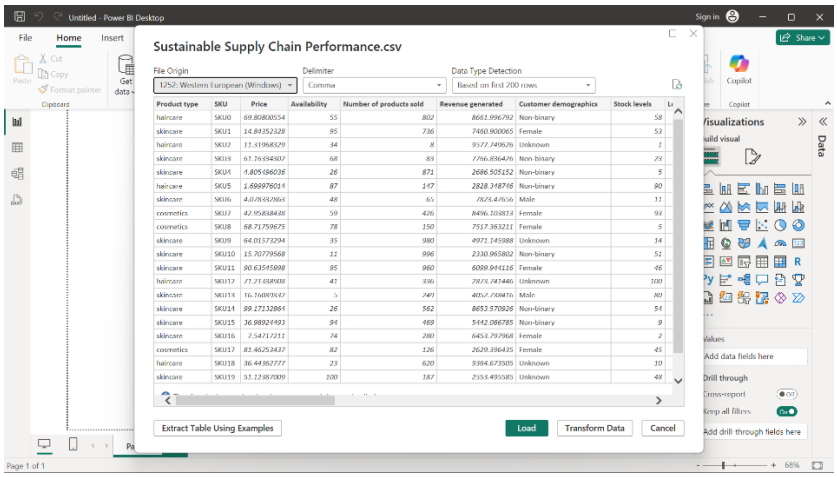


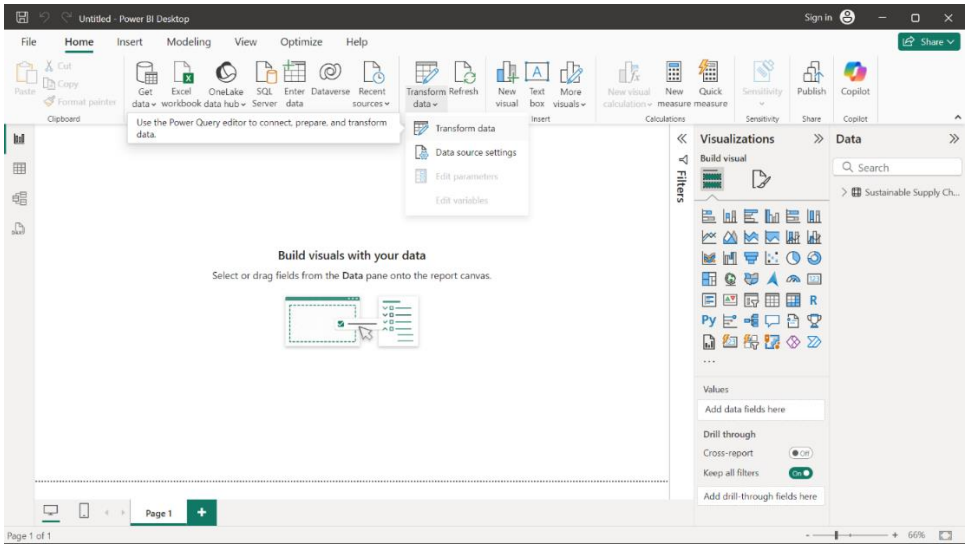
Table Formation

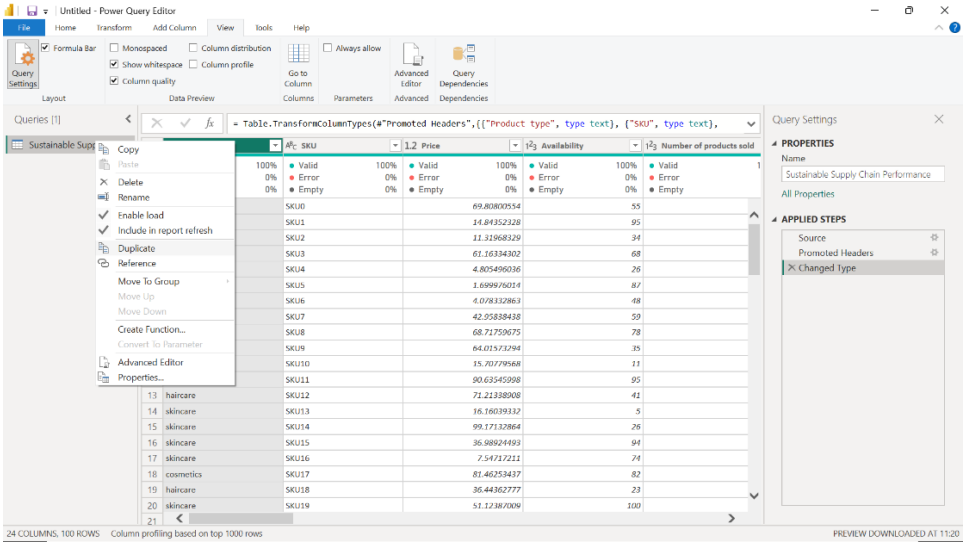
Working with Tables:

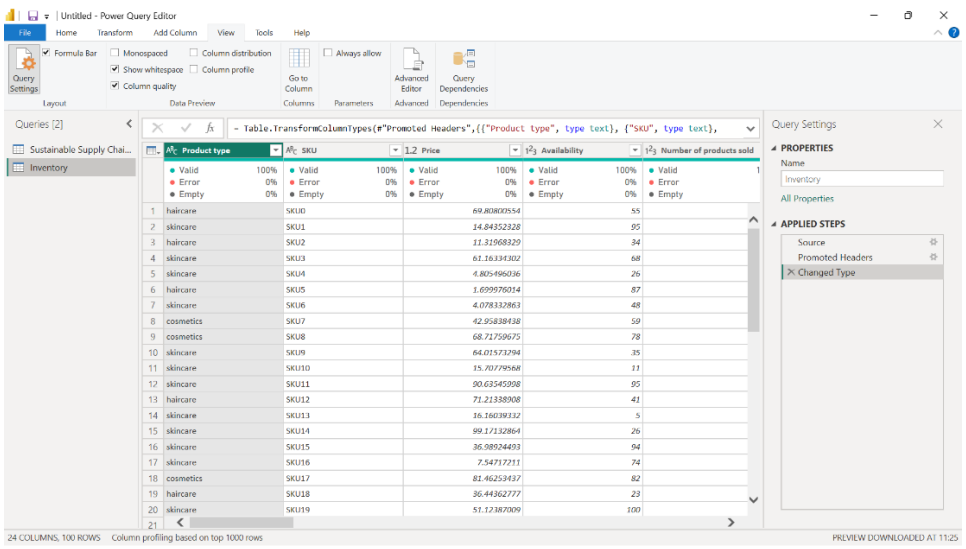
1. View the imported dataset as a table.
2. Check column quality (valid, empty, or errors).
3. Create or duplicate tables to organize data logically.

Tables Created for This Project:

1. Inventory Table
2. Supply Chain Table
3. Manufacturing Table
4. Supplier Table


Untitled - Power BI Desktop
Build visuals with your data
Select or drag fields from the Data pane onto the report canvas.
Visualizations
Data
Page 1


Untitled - Power Query Editor
Queries [1]
Query Settings
PROPERTIES
APPLIED STEPS
24 COLUMNS, 100 ROWS
Column profiling based on top 1000 rows


Untitled - Power Query Editor
Queries [2]
Query Settings
PROPERTIES
APPLIED STEPS
24 COLUMNS, 100 ROWS
Column profiling based on top 1000 rows

Conclusion

By following these steps, we analyze the sustainable supply chain's performance.

This ensures:

- Clean and accurate data for analysis.
- Meaningful insights for decision-making.
- Clear and interactive reporting.
