

# 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.

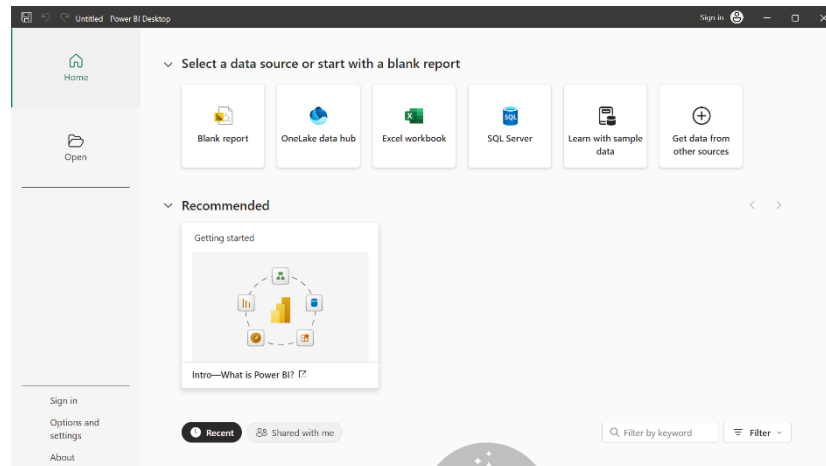
Common formats include CSV, Excel, JSON, or SQL exports.

The screenshot shows a Microsoft Excel spreadsheet titled "Sustainable Supply Chain Performance". The spreadsheet contains a large table of data with columns for Product type, Supplier, Quantity, Price, and various performance metrics. The interface includes the standard Excel ribbon (File, Home, Insert, Page Layout, Formulas, Data, Review, View, Help) and a status bar at the bottom showing "Ready" and "Accessibility: Unavailable".

## 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.



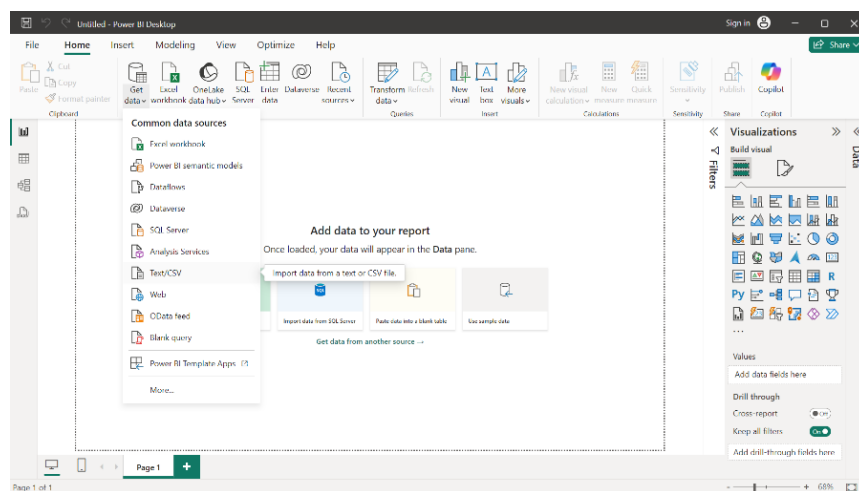
## Steps in Power BI

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.

Product type	SKU	Price	Availability	Number of products sold	Revenue generated	Customer demographics	Stock levels
haircare	SK010	69.80800534	55	802	8662.996792	Non-binary	58
skincare	SK011	14.80352338	95	736	7480.900065	Female	53
haircare	SK012	13.51906529	94	8	9177.749626	Unknown	7
skincare	SK013	67.76196493	68	88	7766.856476	Non-binary	79
skincare	SK014	1.809196036	26	871	2686.502152	Non-binary	5
haircare	SK015	1.899976014	87	147	2828.348748	Non-binary	80
skincare	SK016	4.017616278	48	65	7674.47616	Male	11
cosmetics	SK017	42.95638488	59	436	3436.102815	Female	91
cosmetics	SK018	68.71799676	78	150	7517.383211	Female	5
skincare	SK019	64.01573294	35	980	4972.145988	Unknown	14
skincare	SK020	15.70779568	11	995	2330.965882	Non-binary	51
skincare	SK021	90.63545888	85	960	6089.941216	Female	46
haircare	SK0117	71.71188988	41	336	7876.747446	Unknown	100
skincare	SK0118	76.74897947	5	249	4817.739476	Male	80
skincare	SK0121	99.17123881	26	562	8653.578626	Non-binary	51
skincare	SK0115	36.9824993	91	689	5412.086785	Non-binary	9
skincare	SK0116	7.54717211	74	280	6451.797968	Female	2
cosmetics	SK0117	82.46253437	82	126	2628.396435	Female	45
haircare	SK0118	36.44362777	23	620	3994.673905	Unknown	10
skincare	SK0119	5.122387089	100	187	2515.493585	Unknown	48

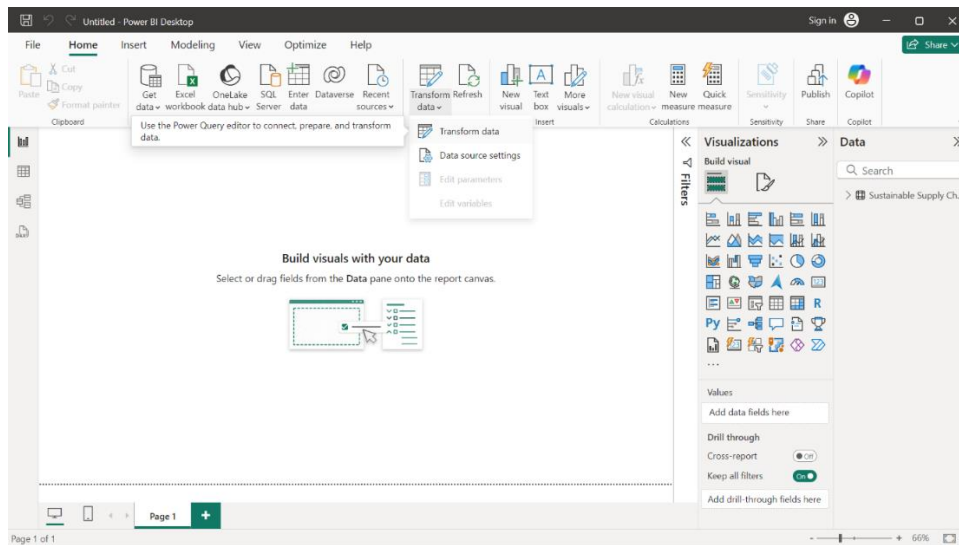
## Table Formation

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



	SKU	Price	Availability	Number of products sold
1	Valid	Valid	Valid	Valid
2	Error	Error	Error	Error
3	Empty	Empty	Empty	Empty
4	SKU0	69.80800554	55	
5	SKU1	14.84352328	95	
6	SKU2	11.31968329	34	
7	SKU3	61.16334302	68	
8	SKU4	4.805496036	26	
9	SKU5	1.699976014	87	
10	SKU6	4.078332863	48	
11	SKU7	42.95838438	59	
12	SKU8	68.71759675	78	
13	SKU9	64.01571294	35	
14	SKU10	15.70779568	11	
15	SKU11	90.63545298	95	
16	SKU12	71.21388008	41	
17	SKU13	16.16039332	5	
18	SKU14	99.17132864	26	
19	SKU15	36.98924493	94	
20	SKU16	7.54717211	74	
21	SKU17	81.46253437	82	
22	SKU18	36.44362777	23	
23	SKU19	51.12387009	100	

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## 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.
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