**Costco-Datasets — Power BI Advanced Project**

**Overview**

This project is an end-to-end **data analytics and visualization case study** developed using **Power BI**, based on simulated data that mirrors Costco’s business operations. It provides business stakeholders with a deep dive into multi-year sales performance, customer segmentation, product-level trends, and regional performance.

The goal was to create a complete analytics pipeline — from raw data ingestion to interactive dashboards — that could support data-driven decisions in a retail/wholesale environment.

**What I Did**

1. **Data Modeling & Cleaning**
   * Integrated multiple datasets: sales, customers, products, and regional metrics.
   * Cleaned and transformed data using **Power Query** to ensure consistency and readiness for analysis.
   * Created data relationships and star-schema structure to optimize dashboard performance.
2. **DAX Calculations**
   * Built dynamic measures to calculate KPIs like Total Sales, Year-over-Year Growth, Customer Lifetime Value, and more.
   * Used time intelligence functions for trend analysis and forecasting.
3. **Dashboard Design**
   * Created **6 interactive Power BI dashboards**, each targeted at specific business needs:
     + Executive Summary
     + Customer Insights
     + Regional Performance
     + Product Category Trends
     + Year-over-Year Sales Comparison
     + Sales Forecasting
4. **User Experience & Storytelling**
   * Incorporated filters, slicers, and drill-through capabilities to make dashboards intuitive.
   * Added comments and tooltips to explain logic and guide viewers.

**Review of the Project**

This project demonstrates strong capability in handling a multi-source retail dataset and transforming it into a powerful analytics asset using Power BI.

**Strengths:**

* Realistic business scenario (Costco-style sales and customers)
* Well-structured dashboards covering multiple stakeholder perspectives
* Use of advanced Power BI features (DAX, forecasting, data modeling)

**Areas of Excellence:**

* **Data storytelling:** The visuals are not just charts — they narrate what happened in the business over time.
* **Scalability:** Easily adaptable for real-world retail chains or e-commerce platforms.
* **User-centered design:** Clean layout, easy to navigate, and includes helpful annotations.

**Expected Outcomes & Results**

By using this solution, a business like Costco can:

* Identify top-performing and underperforming regions, products, or categories
* Better understand customer segmentation and target high-value customer groups
* Predict future sales trends using built-in forecasting tools
* Improve executive decision-making through a single-pane dashboard overview
* Drive higher revenue through insights into discount impact and customer behavior

**Final Thoughts**

This project is a portfolio-grade showcase of what a **Power BI analyst** or **data visualization expert** can deliver using real-world business logic. It balances technical skill with business intuition — a valuable asset for any data-driven organization.