Industry: Retail Sales, Store Operations, Customer Analytics

1.Context

Retail organizations must continuously monitor sales performance, product demand, customer behavior, store performance, and discount effectiveness. With multiple stores, product categories, and payment methods, decisions become difficult without a consolidated Business Intelligence view.

2.Business Problem

Stakeholders currently lack a unified BI dashboard that connects:

- **Sales (revenue, net revenue, transactions, quantity)**
- **Customers (location + demographic attributes)**
- **Products (category/subcategory + size/color + cost)**
- **Stores (store performance + geography)**
- **Discount campaigns (discount percent + period + product family)**

A BI solution is needed to:

- Identify **top-performing stores/employees/products**
- Track **growth trends (MoM)** and seasonality
- Understand **best-selling variants** (size/color)
- Measure **discount impact** on sales and customer buying patterns
- Support inventory, marketing, and operational decisions

3.Organization Scenario (Stakeholders)

Relevant stakeholders include:

- Store managers and regional directors (store performance monitoring)
- Sales/marketing teams (campaign targeting, discount evaluation)
- Finance (net revenue, profitability tracking)
- Operations & supply chain (demand forecasting, stock planning)
- HR / management (employee performance monitoring)

4.Analytical Questions

1. Which country generates the highest revenue and could be prioritized for growth strategies?
2. Which product category contributes the most to revenue and should be the focus of sales and marketing efforts?

3. Which month generates the highest revenue, and are there trends we can use for planning promotions?
4. Who are the top customers generating the most revenue, and how can we retain them?
5. Which gender contributes more to revenue, and should marketing be targeted accordingly?
6. Which product category sells the most units, and does this align with revenue performance?
7. Which sizes and colors are most popular, to optimize inventory and stock levels?
8. Which stores generate the highest revenue , and how can underperforming stores improve?
9. Which stores are the most profitable after discounts and returns?
10. How do discounts impact total revenue and net revenue across products and stores?

5.Data used

- `clean_customers.csv` (1,643,306 rows): customer profile fields (city, country, gender, DOB, job title)
- `clean_stores.csv` (35 rows): store metadata + coordinates (lat/long)
- `clean_products.csv` (17,940 rows): product catalog (category/subcategory, color, sizes, production_cost)
- `clean_discounts.csv` (181 rows): campaign rules (start/end, discount_percent, category/subcategory)
- clean_transactions.csv **fact table** (big CSV you described): invoices/lines with customer/product/store/date/discount/line totals/payment method)

6.Key Performance Indicators (KPIs)

KPI Name	Definition / DAX	Target / Interpretation
1) Total Revenue	`Total Revenue :=` `SUM(clean_transactions[Line Total])`	Higher = stronger sales performance
2) Total Discount	`Total Discount :=` `SUM(clean_transactions[Discounts])`	Track discount spending (cost of promotion)
3) Net Revenue	`Net Revenue := [Total Revenue] -` `[Total Discount]`	"True" sales after discounts

4) Discount Rate %	`Discount Rate % := DIVIDE([Total Discount],[Total Revenue])`	Lower % = less dependency on discounting (benchmark depends on strategy)
5) Number of Transactions	`Number of Transactions := DISTINCTCOUNT(clean_transactions[Invoice ID])`	Higher = more orders/invoices
6) Average Order Value (AOV)	`Average Order Value := DIVIDE([Total Revenue],[Number of Transactions])`	Higher = stronger basket value
7) Total Quantity	`Total Quantity := SUM(clean_transactions[Quantity])`	Higher = more units sold
8) Average Selling Price (ASP)	`Average Selling Price := DIVIDE([Total Revenue],[Total Quantity])`	Track price level and mix effects
9) Unique Customers	`Unique Customers := DISTINCTCOUNT(clean_transactions[Customer ID])`	Higher = broader customer reach

10)Product Revenue	Product Revenue =
	 SUMX(
	   clean_transactions,
	   (clean_transactions[unit_price] * clean_transactions[quantity]) - clean_transactions[discount]
	)
		Track revenue by each product

11) MoM Growth %	Uses Date table: see DAX below	>0 growth, <0 decline month-to-month