Retail Sales & Profitability Analysis

Data-driven business intelligence project delivering actionable insights for retail managers and analysts.

Shivam Singh — Python | SQL | Power BI

Business Problem

- Thousands of daily transactions, limited clarity on profit drivers
- Unclear impact of discounts on margins
- Underperforming regions and loss-making products go unnoticed
- Difficulty identifying high-value customers for targeted actions

Project Objective

- Analyze overall sales and profit performance
- Identify profit-driving categories and loss-making SKUs
- Evaluate regional trends and discount effects
- Deliver an interactive dashboard for decision-makers
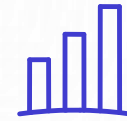
Sales Analysis

Revenue trends and KPIs

Profit Focus

Category & SKU margins

Regional Insights

Underperforming areas

Discount Impact

Margin sensitivity

Tools & Workflow

Data Cleaning

Business Queries

Visualization

KPI Calculation

This end-to-end workflow ensures clean inputs, repeatable queries, visual storytelling, and measurable KPIs for fast decision-making.

Dataset Overview
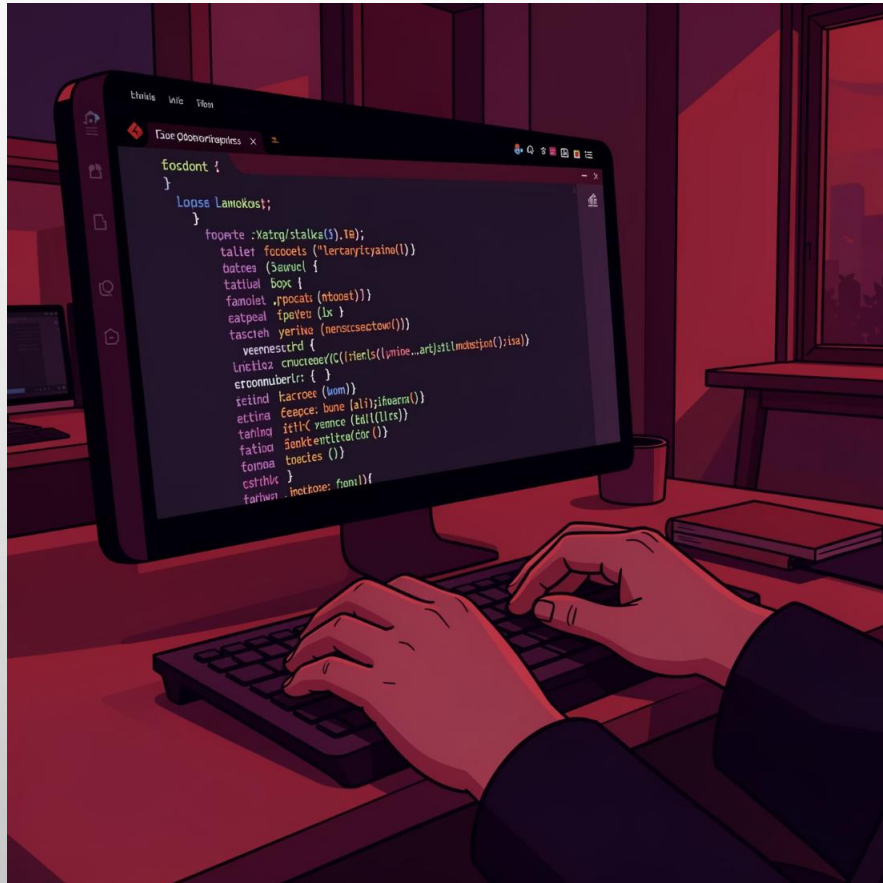
9,994

Transactions

Individual sales records audited and cleaned

21

Columns

Sales, Profit, Discount, Region, Category, Customer, Shipping, and more

Data was cleaned, deduplicated, and transformed for reliable analytics and dashboard refreshes.

SQL Analysis Highlights

- 15+ business questions answered via parameterized queries
- Revenue, profit, and margin by category/sub-category
- Identification of loss-making SKUs and discount sensitivity
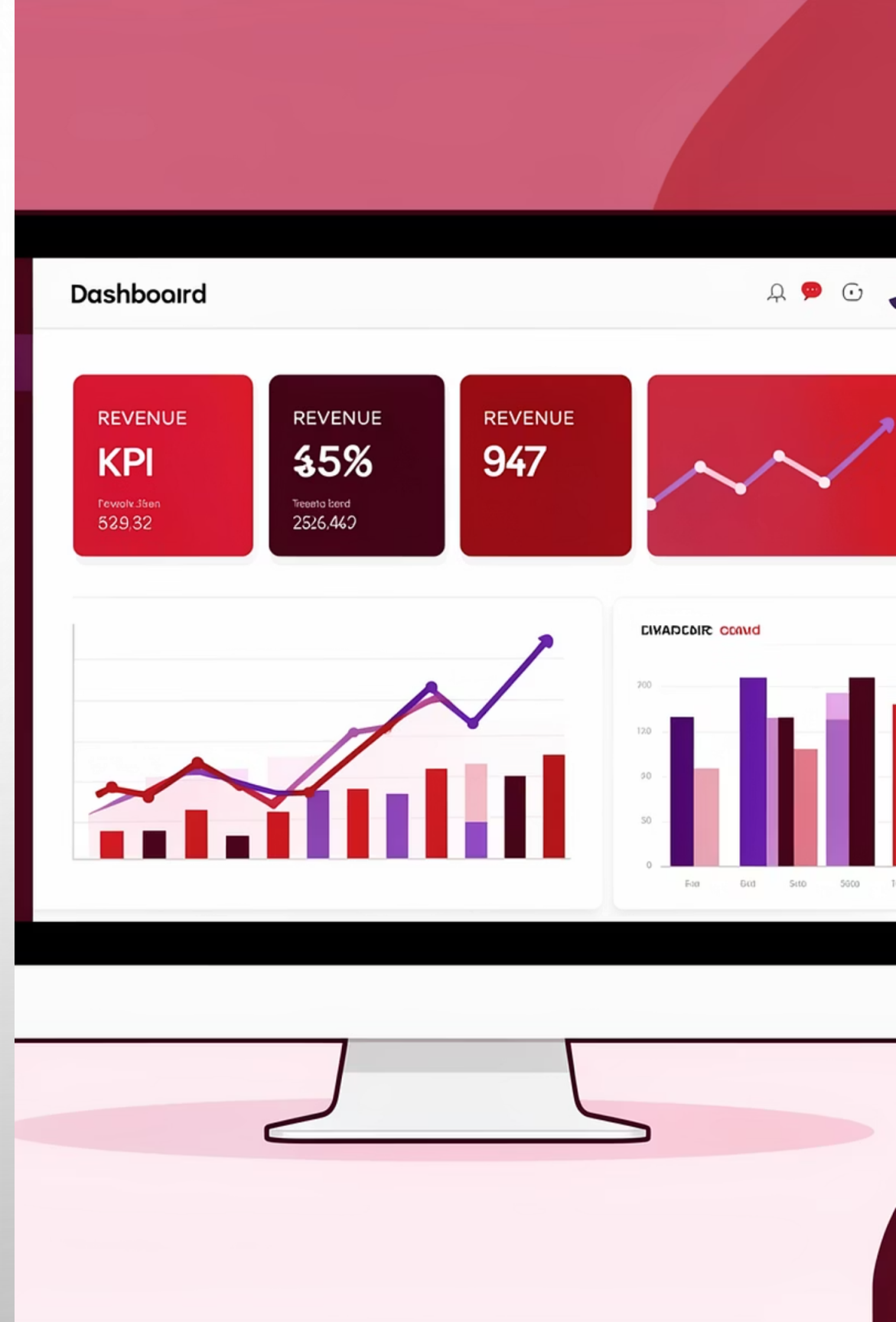- Top customers and transactional patterns for segmentation

Analysis logic is documented and reproducible for future queries.

Dashboard Overview — Page 1

Executive overview containing Revenue KPI, Profit KPI, Order Count, Profit Margin, Sales Trend, and category/region performance snapshot.

High-level performance summary for management.

Profitability Deep Dive — Page 2

Focused views for sub-category margins, discount vs. profit analysis, top customers, loss-making products, and regional distribution for operational action.
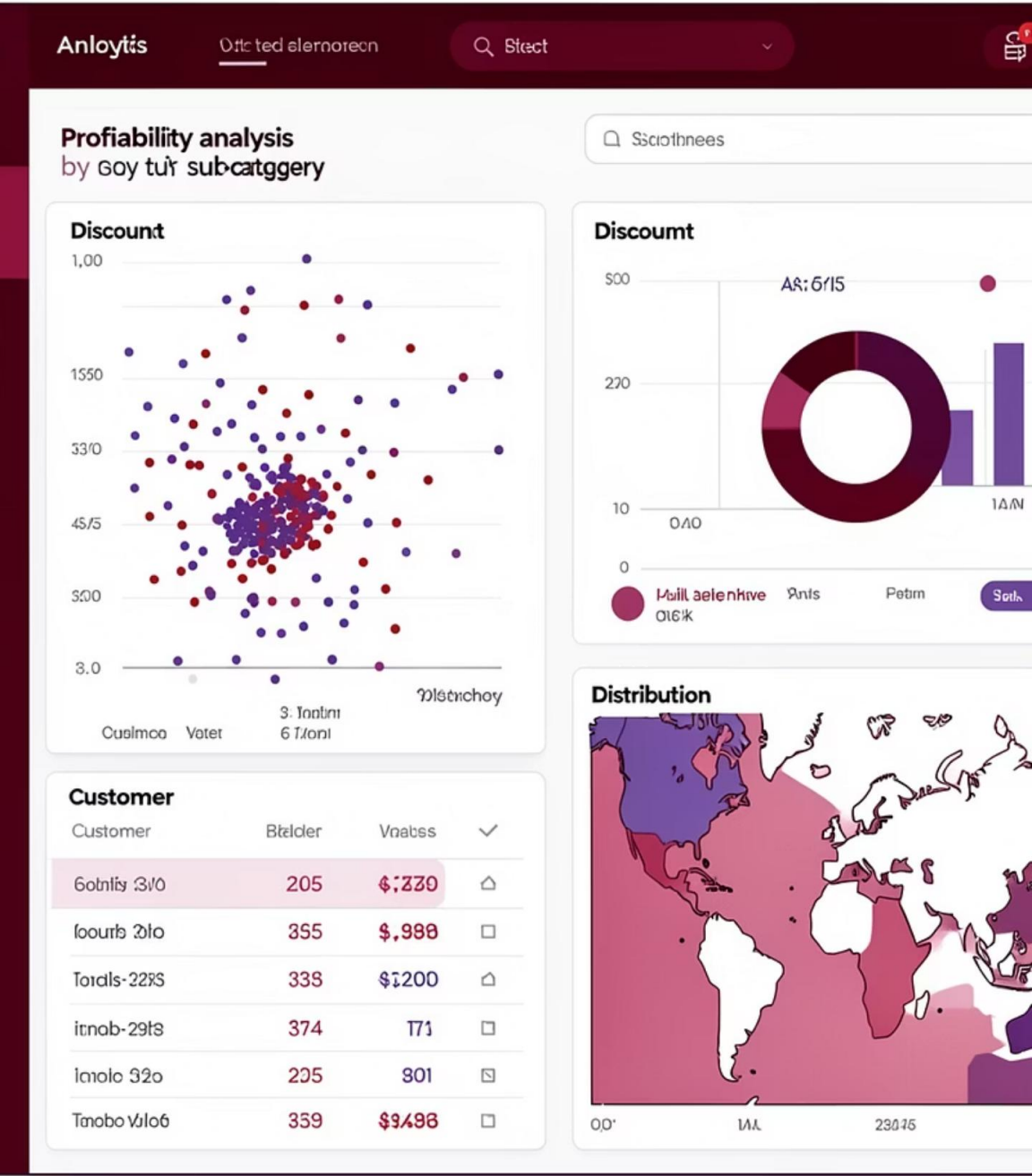
Key Insights

Technology Leads Revenue

Highest revenue concentration in tech categories; focus on inventory and upsell.

Discounts Compress Margins

High-discount SKUs show materially lower profit margins — adjust promotion rules.

Concentrated Customers

Revenue skewed toward a small cohort — prioritize retention and premium offers.

Regional Variance

Some regions underperform despite strong SKUs elsewhere — examine pricing and assortment.

Project Impact

Clear, repeatable analytics pipeline enabling faster decisions and measurable margin improvements.

Next Steps

Implement prioritized recommendations and monitor via dashboard KPIs.

Recommendations

- Optimize discount strategy: targeted, threshold-based promotions to protect margins
- Drive assortment toward high-margin products and reduce loss-making SKUs
- Deploy region-specific tactics: tailored pricing, inventory, and marketing
- Strengthen retention programs for top customers to stabilize revenue

These steps will improve profitability while preserving competitive pricing.