Retail Sales Analytics – Project Report

1. Project Overview

This project provides a complete analysis of retail sales performance using Power BI and SQL. The goal is to understand revenue trends, customer behaviour, category-level performance, pricing impact, and forecast accuracy.

2. Objectives

- Analyse revenue, profit, and quantity trends

- Understand product category contribution

- Measure actual vs forecasted revenue

- Analyse price change impact on performance

- Identify high-value customers and regional performance

3. Tools & Technologies

- Power BI (Dashboarding, DAX, Data Modelling)

- MySQL (Data exploration, SQL queries)

- Excel (Initial checks)

- Power Query (Data transformation)

4. Dataset Description

The project uses five datasets:

- Sales: Transactional sales data

- Customers: Customer details

- Products: Product information

- Pricing_Changes: Old vs new price records

- Forecasts: Monthly forecasted revenue

5. Data Model (Star Schema)

A star schema was created with Sales as the fact table and Customers, Products, Pricing_Changes, Forecasts, and DimDate as dimension tables.

6. Dashboard Summary

The project contains three dashboards:

1. Executive Summary

   - Total Revenue, Profit, Margin %, Quantity

   - Revenue Trend (Monthly)

   - Category Contribution

   - Top 10 Products

2. Forecast & Pricing Analysis

   - Actual vs Forecast Revenue

   - Price Change Impact

   - Revenue Before/After Price Change

3. Customer Analytics

   - Customer Lifetime Revenue

   - Segment Performance

   - Region-wise Revenue

   - High-Value Customers

7. Key Insights

- Electronics, Fashion, and Sports categories lead revenue.

- Actual revenue is slightly below forecast values.

- Some products faced revenue drop after price changes.

- Chennai and Mumbai are top-performing regions.

- High-value customers contribute a major share of total revenue.

8. SQL Analysis Performed
- Total revenue and profit calculations

- Category and segment performance

- Price change impact evaluation

- Customer lifetime value

- Regional analysis

- Top-selling product identification

9. Conclusion
The project demonstrates strong understanding of data modelling, DAX, SQL, and dashboard storytelling. It provides actionable insights that help businesses improve revenue strategy, customer targeting, product planning, and pricing decisions.