

RETAIL BUSINESS PERFORMANCE & PROFITABILITY ANALYSIS

PROJECT REPORT

INTRODUCTION

In today's competitive retail environment, businesses must continuously monitor performance and profitability to stay ahead. This project focuses on analysing retail sales data to extract valuable insights related to sales trends, product performance, and regional growth, enabling data-driven decision-making.

ABSTRACT

This project involves building a Power BI dashboard using retail sales data consisting of sales, profit, product, region, and customer segment information. SQL was used to clean and analyze the data before visualizing it in Power BI. The objective was to identify high- and low-performing categories, understand regional trends, and uncover insights for strategic planning.

TOOLS USED

- **Power BI** – for dashboard design and data visualization
- **PostgreSQL (pgAdmin 4)** – for SQL-based data analysis

STEPS INVOLVED IN BUILDING THE PROJECT

a) Data Cleaning & Preparation

- Imported the dataset into PostgreSQL
- Created SQL table using appropriate data types
- Removed null values and checked for duplicates

b) SQL Querying

- Calculated KPIs like total sales, profit, and orders
- Aggregated profit by region, product type, and sub-category
- Analysed freight expenses and monthly sales trends
- Identified top and bottom performing product categories

c) Dashboard Design in Power BI

- Created KPI cards: Total Sales, Total Profit, Total Orders
- Designed charts: Monthly trend line, regional bar chart, donut chart by segment
- Implemented slicers: Region, Product Type, Order Date
- Styled the dashboard using consistent theme and layout

CONCLUSION

The dashboard provides a clear and interactive view of the business's sales performance across various dimensions. It identifies profitable product types, high-performing regions, and seasonal sales trends. Such insights can be used to optimize inventory, boost marketing strategies, and focus on high-return segments. This project demonstrates the effective use of SQL and Power BI in extracting and visualizing valuable business intelligence.