Project Report – 1

HR Analytics – Predict Employee Attrition

Introduction

Employee attrition increases organizational cost and reduces productivity. This project analyzes HR data to identify key factors behind employee resignation and predict future attrition using data analytics techniques.

Abstract

The project uses SQL for data preparation, Python for exploratory analysis and machine learning, and Power BI for visualization. Key attrition drivers such as salary, department, experience, and promotions were analyzed to support HR decision-making.

Tools Used

SQL, Python (Pandas, Scikit-learn), Power BI

Steps Involved

1. Data cleaning and preparation

2. Attrition analysis using SQL

3. Exploratory analysis using Python

4. Attrition prediction model

5. Power BI dashboard creation

Conclusion

The project helps identify high-risk employees and supports data-driven retention strategies to reduce employee attrition.

Project Report – 2

Retail Business Performance & Profitability Analysis (Superstore)

Introduction

Retail data analysis is essential to understand sales performance and profitability. This project analyzes Superstore sales data to identify trends, profit-draining products, and regional performance.

Abstract

SQL was used for sales and profit analysis, Python for trend analysis, and Power BI for dashboard creation. The project provides insights into category, region, and time-based sales performance.

Tools Used

SQL, Python (Pandas), Power BI

Steps Involved

1. Data cleaning and preparation

2. Sales and profit KPI calculation

3. Category and region analysis

4. Trend analysis

5. Power BI dashboard development

Conclusion

The project delivers actionable insights to improve pricing, inventory management, and overall retail business performance.