INTERNSHIP STUDIO

Final Project Report

Project Title
Sales Data Analysis and Reporting for a Retail Chain

Submitted By: Anil Kumar H
Domain: Data Analytics
Tools Used: Python, SQL, Excel
Platform: Internship Studio

Declaration

I hereby declare that this project titled **“Sales Data Analysis and Reporting for a Retail Chain”** is my original work completed as part of the Data Analytics Internship Program at Internship Studio. All sources of data and references have been duly acknowledged.

Signature: _____
Name: Anil Kumar H
Date: _____

1. Introduction

Retail organizations rely heavily on data analytics to monitor sales performance, understand customer behavior, and optimize business strategies. This project focuses on analyzing transactional sales data using Python, SQL, and Excel to derive meaningful insights and generate structured reports.

2. Project Objectives

• Analyze retail sales data to identify trends and patterns
• Perform data cleaning and preparation for accurate analysis
• Generate visual and tabular reports for business insights
• Provide recommendations to improve sales performance

3. Dataset Description

The dataset consists of retail transaction records obtained from an online retail dataset. It includes Transaction ID, Transaction Time, Item Code, Item Description, Number of Items Purchased, Cost per Item, and Country. The dataset represents real-world retail sales data.

4. Tools and Technologies

Python was used for data analysis and visualization, SQL for structured querying, and Excel for reporting and summary tables. Jupyter Notebook served as the execution environment.

5. Data Cleaning and Preparation

The raw dataset contained missing values, duplicates, and inconsistent formats. Data cleaning involved removing duplicates, handling null values, converting date-time fields, and creating calculated columns such as Total Sales and Month-Year fields.

Step	Description
Duplicate Removal	Removed repeated transaction records
Missing Values	Handled null and inconsistent entries
Feature Engineering	Created Total Sales & Month columns

6. Exploratory Data Analysis (EDA)

EDA was performed to understand sales distribution, product performance, and country-wise contribution. Visualizations such as bar charts, line graphs, and trend plots were used.

[Charts Included: Monthly Sales Trend, Top Products, Country-wise Sales]

7. Key Insights

• A small group of products contributes to a large share of total revenue
• Sales demonstrate seasonal peaks during certain months
• Specific countries dominate total sales volume
• Bulk orders significantly increase revenue

8. Business Recommendations

Retailers should focus on high-performing products, plan promotions during peak periods, optimize inventory management, and expand operations in high-revenue regions.

9. Conclusion

This project highlights the importance of data analytics in retail decision-making. Using Python, SQL, and Excel, raw sales data was transformed into actionable insights that support strategic business planning.

10. Future Scope

Future enhancements include sales forecasting, customer segmentation, predictive modeling, and building interactive dashboards using Power BI or Tableau.