PROJECT REPORT

INTERNSHIP AT ELEVATE LABS

PROJECT TITLE: RETAIL BUSINESS PERFORMANCE AND PROFITABILITY ANALYSIS

Intern: Rishabh Kumar

Duration: 45 Days

1. INTRODUCTION

This comprehensive report details the significant project undertaken during a 45-day internship at Elevate Labs. Titled “Retail Business Performance and Profitability Analysis,” the project was meticulously designed to dissect a retail dataset, employing advanced analytical techniques with SQL, Python, and Tableau. The core objective was to gain deep insights into various facets of business performance, including sales trends, profit margins, the strategic application of discounts, and customer purchasing behaviors. Ultimately, the aim was to identify actionable opportunities for enhancing overall business profitability and driving sustainable growth.

2. OBJECTIVES

To conduct an in-depth analysis of sales and profit trends, segmenting data by product category and geographical region to identify high-performing and underperforming areas.

To rigorously measure and quantify the impact of various discount strategies on the company's profit margins.

To pinpoint specific products that are consistently contributing to losses and develop strategies for their improvement or discontinuation.

To design and implement interactive dashboards using Tableau, providing key stakeholders with a clear, data-driven view for informed decision-making.

3. METHODOLOGY

SQL: Utilized SQL extensively to extract and aggregate critical data. Specific queries were crafted to derive insights such as category-wise profit contributions, region-wise sales performance, and the identification of products with negative profit margins.

Python: Leveraged Python for robust Exploratory Data Analysis (EDA). This involved analyzing monthly sales and profit trends, assessing the influence of different shipping modes on delivery times and costs, and visualizing the patterns of top loss-making products to understand their underlying causes.

Tableau: Employed Tableau to create dynamic and visually appealing dashboards. These dashboards offered intuitive representations of profit distribution by category, the direct correlation between discounts offered and profit achieved,

overarching sales trends over time, and a detailed breakdown of regional performance metrics.

4. RESULTS & FINDINGS

Category Performance: Analysis revealed that the 'Technology' product category emerged as the highest profit generator, significantly contributing to the company's bottom line. Conversely, the 'Furniture' category demonstrated lower profitability, indicating a need for strategic review.

Discount Impact: It was observed that while discounts can drive sales volume, excessive or poorly targeted discounts substantially eroded profit margins. This effect was particularly pronounced in the 'Office Supplies' category.

Loss-Making Products: A critical finding was the identification of several products that consistently incurred losses. These products require immediate attention and a review of their pricing, cost structure, or market positioning strategies.

Regional Performance: Sales performance varied across regions, with the 'South' and 'West' regions exhibiting stronger sales figures and profitability compared to the 'East' region, suggesting potential market disparities or operational efficiencies.

Dashboard Utility: The interactive Tableau dashboards proved invaluable, offering a summarized yet detailed overview of key sales and profit drivers, thereby facilitating quicker and more effective business assessments.

5. TOOLS & TECHNOLOGIES USED

Databases: SQL (specifically MySQL) for data extraction and manipulation.

Programming Languages & Libraries: Python, with key libraries such as Pandas for data manipulation, Matplotlib and Seaborn for data visualization.

Business Intelligence Tools: Tableau for creating interactive dashboards and data visualization.

6. CONCLUSION

This project has been an immensely rewarding experience, providing invaluable insights into the dynamics of retail business performance and profitability. The internship at Elevate Labs has significantly honed my technical skills in SQL, Python, and Tableau, exposing me to practical, real-world data analytics workflows. The project underscored the critical importance of data-driven decision-making in optimizing business strategies and directly contributing to improved profitability within the retail sector.