

# EXECUTIVE SUMMARY

## **Strategic Sales Optimization for Nestle Through Advanced Data Analysis**

This project undertook a comprehensive analysis of Nestle's sales data to deliver actionable insights and strategic recommendations. Initially, Market Basket Analysis (MBA) was employed to identify product associations, but the prevalence of single-item transactions necessitated a shift towards individual product and sales channel performance evaluation. Time series forecasting, utilizing ARIMA and Prophet models, was subsequently conducted to project future sales trends, revealing Prophet's superior accuracy in capturing seasonality and outliers. Segmentation analysis, using K-Means and DBSCAN, categorized sales locations and mediums based on performance metrics, identifying key clusters for targeted strategies.

The analysis revealed significant disparities in sales performance across locations and mediums, with direct sales demonstrating higher effectiveness compared to online channels. An interactive map was developed to visualize sales performance by location, facilitating targeted marketing and resource allocation. Key findings underscore the importance of adaptable analytical approaches and the efficacy of Prophet for sales forecasting.

Recommendations include prioritizing strategies to enhance online sales, leveraging Prophet for ongoing forecasting, and tailoring regional marketing efforts based on segmentation analysis. This project demonstrates the value of data-driven strategies in optimizing sales performance and informing strategic decision-making within Nestle, ultimately driving enhanced revenue and operational efficiency.