**FINAL REPORT**

**Retail Sales Analysis & Forecasting Project**

**1. Project Overview:**

In this project, I analyzed a superstore sales dataset to uncover key business insights, customer trends, and forecast future sales performance.  
Tools used: **Excel, SQL, Python (Pandas, NumPy, Matplotlib), Power BI, Google Sheets**.

**2. Objectives:**

* Clean and prepare raw sales data
* Perform exploratory data analysis (EDA) to find trends and patterns
* Build an interactive sales dashboard (Power BI)
* Forecast future sales using time-series modeling (SARIMA)
* Provide actionable business recommendations

**3. Tools & Techniques:**

* **Data Cleaning:** Pandas, Excel
* **EDA & Visualization:** Matplotlib, Seaborn
* **Dashboard Building:** Power BI
* **Forecasting Model:** SARIMAX (stats models)
* **Documentation:** Jupyter Notebooks, Google Sheets

**4. Key Findings:**

* **Sales peaked during Q4** each year (strong seasonality).
* **Technology** and **Office Supplies** were the top-selling categories.
* **Corporate and Consumer** segments dominated sales.
* **The Western Region** contributed the highest revenue.
* **Faster shipping modes** correlated with higher sales volume.

**5. Forecast Results:**

* 12-month forecast shows continued growth, peaking again around Q4.
* Recommended inventory and marketing boosts around seasonal peaks.

**6. Business Recommendations:**

* Target key high-performing states (California, New York) with focused marketing.
* Expand Technology product line.
* Offer mid-year promotions to handle seasonal sales dips.
* Optimize shipping strategies to encourage higher spend with fast delivery.