👋 About Me

Bilingual Demand Planning Analyst with a strong background in SIOP forecasting, data automation, and advanced analytics. Skilled in Python, SQL, and Power BI, with a portfolio of tools that automate and optimize supply chain operations.

📊 Inventory Analytics Portfolio (SIOP, Prioritization, Forecast Accuracy, Adjustments)

This portfolio showcases five advanced Excel-based reporting tools powered by Python, Pandas, statistical models, and forecasting logic. All reports use dummy data and simulate real-world demand planning and inventory logic for supply chain operations.

These reports were designed to eliminate manual processes, drive cost savings, and reduce human error, leveraging Python and SQL to enable large-scale data automation and support the company's digital transformation strategy.

1. 📦 Inventory Prioritization Report Tool

Automates classification of backlog data into meaningful categories using rule-based logic consisting mainly of nested if statements. Needed to continue part two and appropriately categorize excess inventory by Buyer Name, Family, SKU, and others.

🔍 Features

- Status Mapping, Percent Of Complete (POC) logic, Hold conditions

- Report Category with 8+ logic layers

- Formatted Excel output with visual styling

🧰 Tools Used

Python (Pandas, OpenPyXL), Excel

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2. 📊 SIOP Inventory Allocation & Burn Down Report

A time-phased inventory allocation report simulating excess-to-safety logic, POC allocations, and historical usage analysis.

🔍 Features

- Saves 10 hours weekly of manual Excel work and publishes daily refreshable list to Power BI for Sales Team to reduce finished goods on hand inventory

- Monthly columns from PD through latest date

- Allocates supply across 9 SIOP categories

- Professional Excel formatting and multithreaded data loading

🧰 Tools Used

Python (Pandas, OpenPyXL), Excel

📄 Outputs

- [` 📄 Download Report (PDF) `](SIOP Inventory Report Demo.pdf)

- 📊 Multiple dashboards created in Power BI for internal use

- [SIOP Inventory Excel Output](SIOP_Inventory_Demo.xlsx)

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3. 🎯 Forecast Accuracy Tracker & Power BI Measures

Tracks MS Forecast vs Requested Sales and calculates accuracy KPIs.

🔍 Features

- Auto-appends new forecast vs actuals data monthly

- DAX measures for WMAPE, WMAPE %, Forecast Accuracy %, Forecast Bias %

- Dynamic Date formatting and structure for Power BI use

🧰 Tools Used

Python (Pandas, OpenPyXL), Power BI

📄 Outputs

- 📊 Power BI dashboards created for trend and KPI analysis

- [Forecast Accuracy KPI Dashboard Sample](<Forecast Accuracy Report Demo.pdf>)

--- Forecasting Models below use ML and Statistical Models that are used to supplement Forecasting Software capabilities as well as linking to Power BI for better data visualization. Data is already pre-processed by the use of other Python and SQL scripts and queries for big data manipulation.

4. 📈 Forecast Weighted Adjustment Based on Historical Sales

Adjusts 2025 forecast based on 2024 historicals by Region and Alpha Name using dynamic month-level weights.

🔍 Features

- Saves 20 hours weekly of manual Excel work

- Matches monthly trends using 2024 as baseline

- Preserves zero forecasts

- Automatically adjusts all 2025 columns in-place by Region > Family > Customer Name > SKU

🧰 Tools Used

Python (Pandas)

5. 🤖 Demand Plan Forecast with Best Statistical Model Fit & Override Scaling

Forecasts 2025 using Exponential Smoothing, Moving Average, ARIMA, and other statistical models. Applies override to meet global unit cap as agreed with Sales, and generates before/after visual trends.

🔍 Features

- Fits statistical model per Region > Family > Customer Name > SKU

- Creates monthly forecast with override logic

- Outputs Excel workbook with two charts: unadjusted vs overridden

- Executes in under 2 minutes for thousands of SKUs

🧰 Tools Used

Python (Pandas, pmdarima, matplotlib, XlsxWriter)