

# Case Study

**BOOSTED**

## Inventory Demand Forecasting - Boosted eCommerce Inc.

Completed: 2023



### Challenge

Boosted eCommerce struggled to streamline their supply chain and accurately predict market demand for various products. They sought an advanced solution to enhance decision-making, optimize inventory management, and effectively forecast future sales. Their primary goal was to leverage historical sales data to forecast demand and improve the financial outcomes of their supply team.

### Solution

Artiverse partnered with Boosted Commerce to develop a comprehensive demand forecasting system. We employed several time series forecasting models, including ARIMA (AutoRegressive Integrated Moving Average), SARIMA (Seasonal ARIMA), FB Prophet, and XGBoost, to analyze historical sales data retrieved from the Amazon Sellerboard file, which provided detailed market-wise information.

Key tools used in this project included:

- **Amazon Sellerboard:** Essential for retrieving historical sales data and market-wise details.
- **Excel:** Used to create a Master Excel File, acting as an all-in-one dashboard integrating data across brands and markets.
- **Python Scripts (Google Colab, Jupyter Notebook):** Python was used for scripting the forecasting models and data processing tasks in both Google Colab and Jupyter Notebooks, providing a flexible and powerful computing environment.
- **PowerBI:** Used to visualize data and insights, creating interactive reports that helped Boosted Commerce understand trends and forecasts at a glance.

### Benefits

The demand forecasting solution provided Boosted Commerce with significant advantages:

- **Improved Inventory Management:** By accurately predicting demand, Boosted Commerce could better manage stock levels, reducing overstock and stockouts.
- **Enhanced Financial Planning:** The ability to forecast revenue and integrate these predictions into P&L statements allowed for more effective financial planning and budgeting.
- **Data-Driven Decisions:** Brand managers were empowered to make informed decisions based on reliable data-driven forecasts for their specific brands and market segments.