

SUPPLY FORECASTING

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Domain

Inventory Management

It refers to the process of ordering, storing and using a company's inventory. This includes the management of raw materials, components and finished products, as well as warehousing and processing such items.

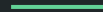
Problem Statement

- Data :

Yearly Sales Data of a Grocery Shop
in Poland

- Goal :

Forecasting Gross Sale Per Day



Understanding the Dataset

- Date of Sale :

Concerned Date of Purchase

- Net Purchase Per Day :

Total amount of purchases made in that particular day. Net sales are calculated by deducting sales allowances, sales discounts, and sales returns from gross sales.

Understanding the dataset

- Gross Sale Per Day :

Gross sales are the grand total of all sale transactions reported in a period, without any deductions included within the figure.

- Tax of Sale Per Day :

It is the amount of money, calculated as a percentage, that is added to the cost of a product or service when purchased by a consumer at a retail location.

Understanding the dataset

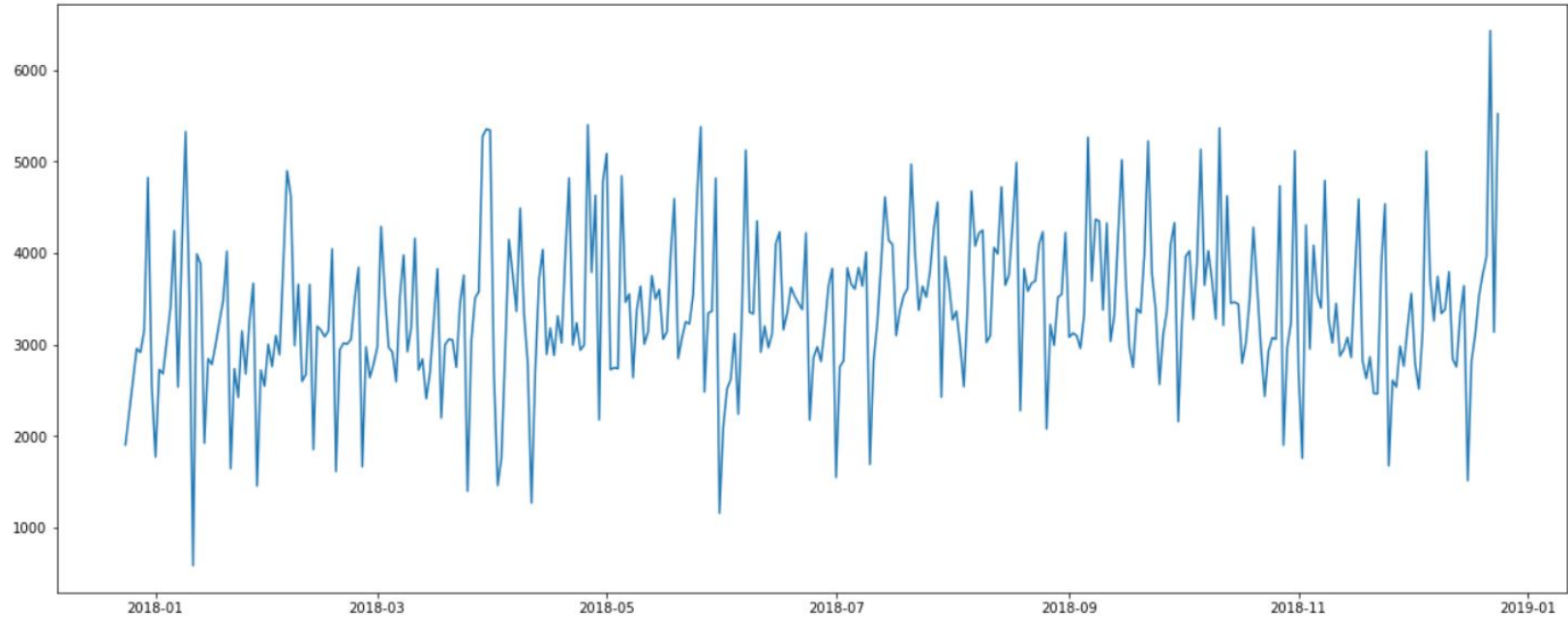
- Margin Per Day :

It is the Marginal interest which is the difference between a product or service's selling price and the cost of production, or the ratio of profit to revenue.

Data PreProcessing

- Cleaning up the data by
Removing the commas from the
last column
 - Changing the datatype of Date
of Sale from object to datetime
 - Dropping the null values
-

Graph between Date of Sale and Gross Sale Per Day



SARIMAX Model

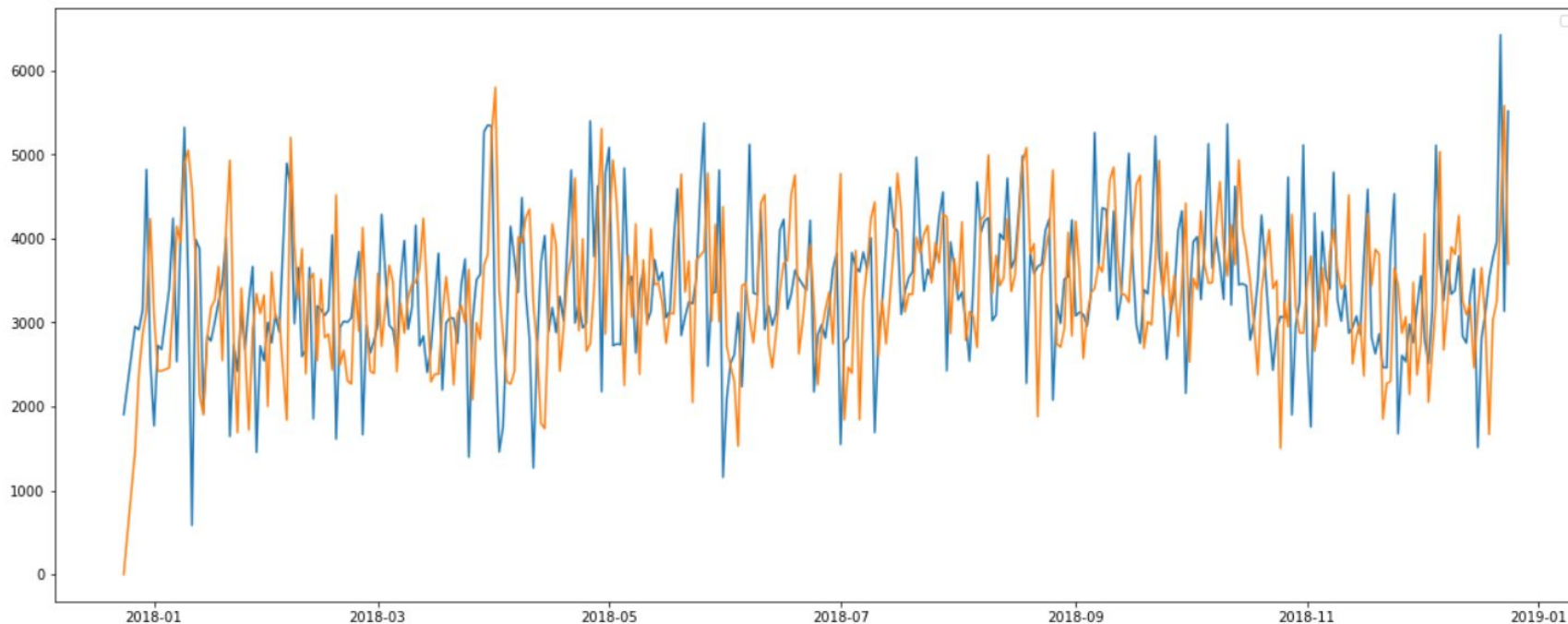
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ARIMA(2,1,0)(1,1,1)[12]	: AIC=inf, Time=1.02 sec
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Best model: ARIMA(2,1,0)(2,1,0)[12]

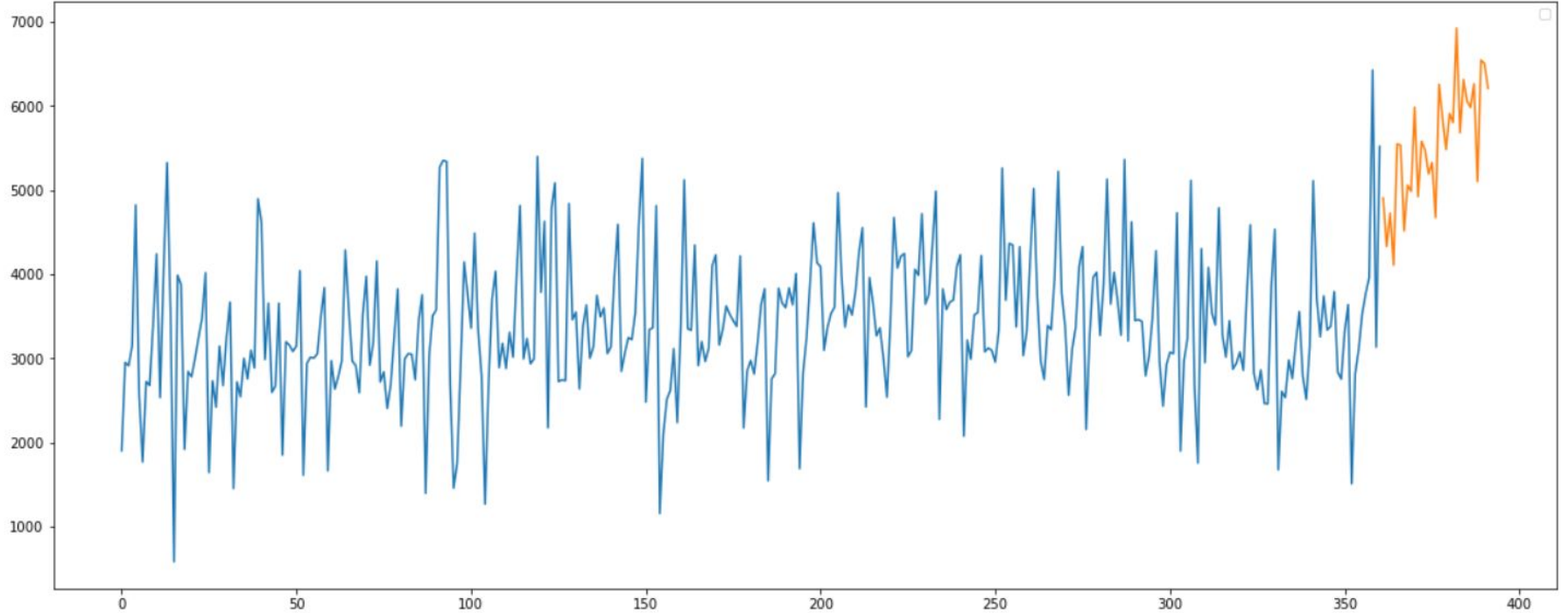
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5881.42844098615

Plot between actual and predicted values



Graph after Forecasting



Implementation

- Can be used for future growth and for managing the cash flow
- Helps in budgeting, and risk management



THANK YOU