Walmart Analytics

Walmart Juniors

Amalwin Aseer . S
Lee Manoj Darshan . N
Nivedha Pandian

THEME: *Data Science*

PROBLEM STATEMENT

The problem we are trying to solve is to predict the changing customer needs at granular level and help our business expand to new potential areas and to manage the stocks at existing warehouse.

SOLUTION

Approach

Key factors which will enable the growth of organized sectors like Walmart are

Better services to the customers by

- Understanding customer needs
- Efficient stock management
- Regional/Seasonal needs

Forecast/Prediction Engine

Future demand is forecasted at product , reginal level by analyzing the sales data across the country ,event impacts and warehouse stock

Prediction algorithm used is ARIMA (Auto Regressive Integrated Moving Average)

Outcome

Prediction engine provides the following which is displayed in a web page for usability

- Trend & Seasonality Forecast
- Warehouse Stock Prediction
- Regional business Opportunities

Technology

Prediction Engine: Python

Web Design : Python

API Integration : Mulesoft

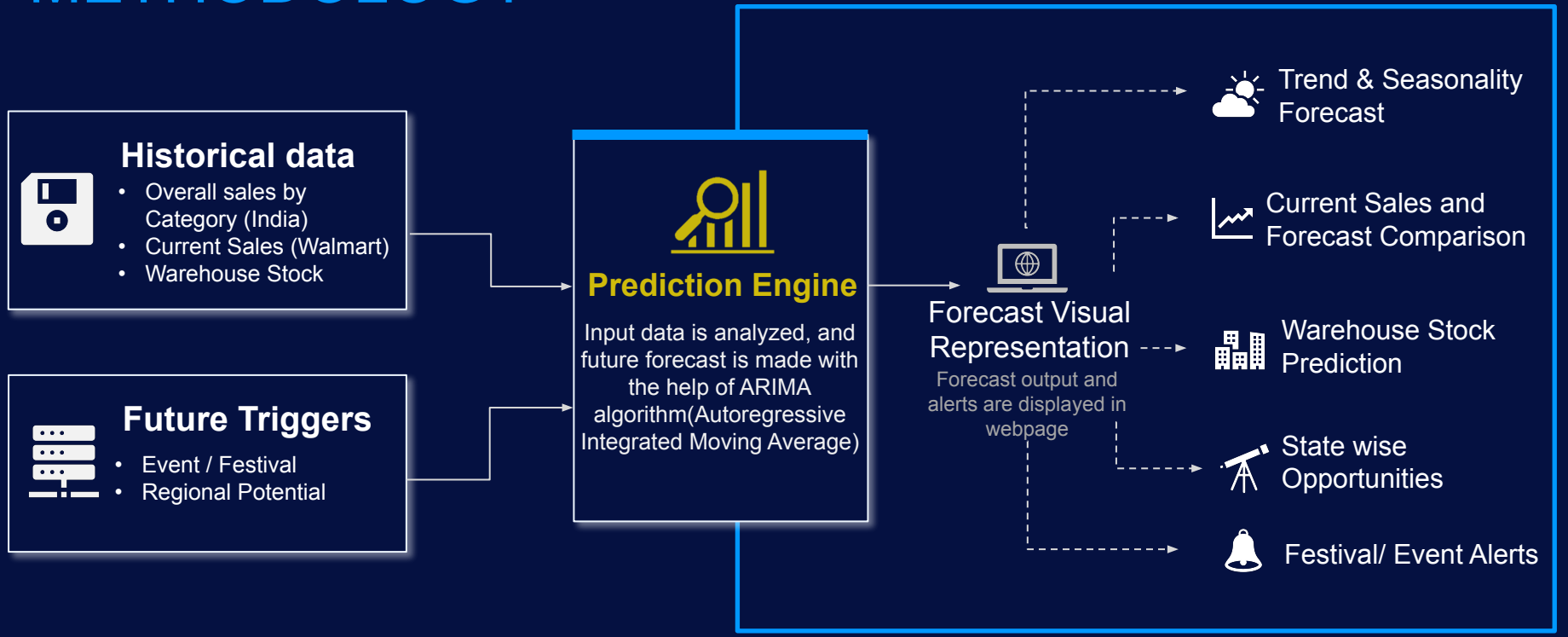
Benefits

- Increased sales are stock will be matching the demand
- Instead reacting to customer needs we can act based on the prediction
- Better customer satisfaction

Implementation & Scalability

The approach can easily be scaled to multiple products as well as to multiple locations with minor customizations

METHODOLOGY



METHODOLOGY

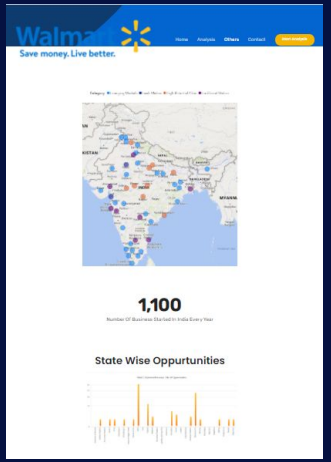
Prediction Engine

Future needs are understood by fitting the data in to a time series by applying autoregressive integrated moving average model

Advantages of ARIMA

- Provides accurate results considered to other models
- Processing time is much lower, and it can easily be scaled to other products

Sample Output



WORKING PROTOTYPE

Website link :

https://github.com/Walmartjr008/Prediction-for-Warehouse-stocking

Attachments