Project Proposal: Retail Analysis

Team 4: Ashish Dass, Anamika Jha, Shruti Narain

Abstract

Retail has always been an important part of our daily lives. An area of substantial research is that of predicting product sales and inventory. Big retail stores like Walmart is the king of retail industry and would never want to run out of inventory and disappoint their customers. In our analysis, we will be analyzing sales data for 111 products whose sales may be affected by the weather. These 111 products are sold in stores at 45 different Walmart locations. The 45 locations are covered by 20 weather stations.

***Our goal**: Will be to do **the sales forecasting for each product around the time of major weather events** when it is difficult for people to come out frequently to refill their inventory.*

Introduction:

Analytics enables us to create an index of every product in the world. With proper analysis, we can enable retailers to offer customers the best prices, and keep products adequately stocked.

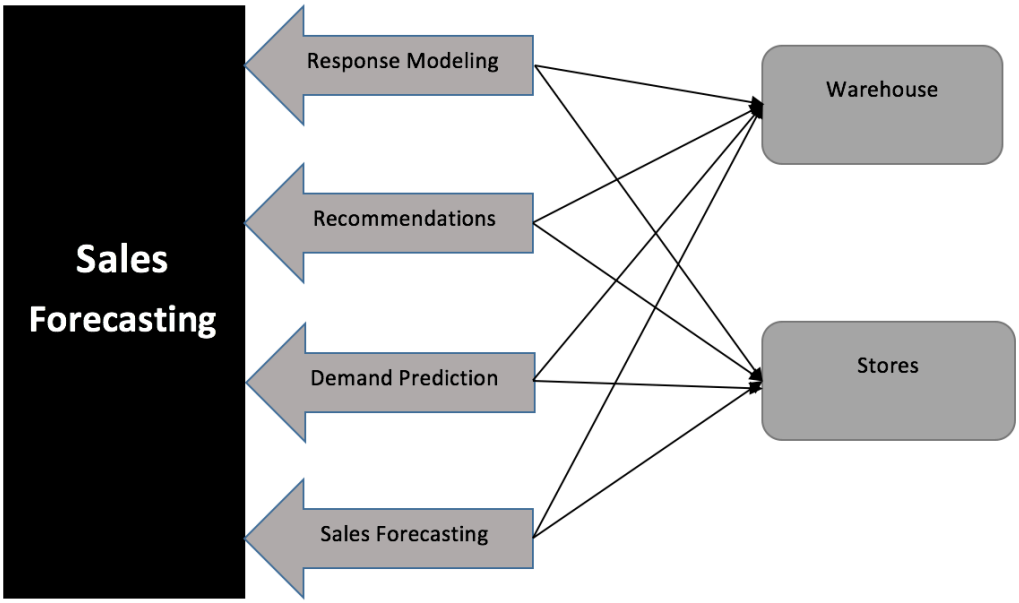
An analysis about our purchases and choices with data about products and product attributes during different weather conditions create the optimal shopping experience during harsh weather conditions. This approach takes the guesswork out of purchasing and makes the shopping experience more enjoyable for everyone.

Data Set:

We are using Walmart dataset available on kaggle for sales in storm weather.

Data Description:

- A file has details of the stores and their nearest weather stations.
- Sales data for all stores and dates
- A csv that contains weather information for each store for each day.



Deliverables:

- R scripts for data ingestion and data wrangling
- Azure models for prediction of inventory
- Web application that takes user inputs and returns predicted results based on the azure model
- Visualization of sales forecasting using tableau integration with R/website
- Integration of the result with MemSQL for live data streaming.

Languages: R, JAVA, MemSQL, Apache Kafka and zookeper
Tools: R studio, Eclipse, Azure ML Studio, postman, Tableau
Technologies: Spring MVC, Restful web service