

Data Science – Retail Forecasting

Group Name	RFuMFM (Retail Forecasting Using Combined ML and Deep Learning Multivariate Forecasting Models)
Name	Tanmay Potbhare
Email	tupotbhare@gmail.com
Country	Ireland
College	Dublin City University
Specialization	Data Science

Problem Description

The large company who is into beverages business in Australia. They sell their products through various super-markets and also engage into heavy promotions throughout the year. Their demand is also influenced by various factors like holiday, seasonality. They needed forecast of each of products at item level every week in weekly buckets.

EDA

1. Check the distribution of the target variable using a histogram or a density plot.
2. Check for missing values and outliers in the dataset
3. Analyse the relationship between the target variable and the other variables in the dataset.
4. Identify any correlations between the predictor variables (Price Discount, In-Store Promo, Catalogue Promo, Store End Promo) using a correlation matrix. This will help you identify any multicollinearity between the predictor variables and select the best predictors for the model.

Final Recommendation

Based on the analysis, it can be recommended to focus on SKU3 and SKU1 products as they have the highest sales. It is also evident that discounts and in-store promotions have a moderate to strong positive impact on sales, while store end promotions and Google mobility have a weaker impact. Covid Flag has a weak negative correlation with sales, which may indicate that the COVID-19 pandemic had a small negative impact on sales. It can also be seen that discounts may have been used to boost sales during the pandemic.

GitHub Repo link - <https://github.com/TanmayPotbhare/Retail-Forecast-Using-Multivariate-Forecasting-Models/tree/main/Week10>