MMM Daily Installs Forecast

Problem

Understand the true impact of the marketing campaign on the client app daily installations.

Solution

After data cleaning, feature engineering and the EDA phases, to predict the daily installations number, I train a multivariate linear regression model through the available predictors and newly created ones. A seasonality patter analysis is conducted on the data through a LOESS analysis. The seasonality pattern is then included in the final model.

Next Steps

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- 1. Account for more lagged predictors.
- 2. Retrieve additional predictors that may affect the number of installations.
- 3. Test the performance of a Neural Network model.

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4. Increase the historical time span of the dataset.

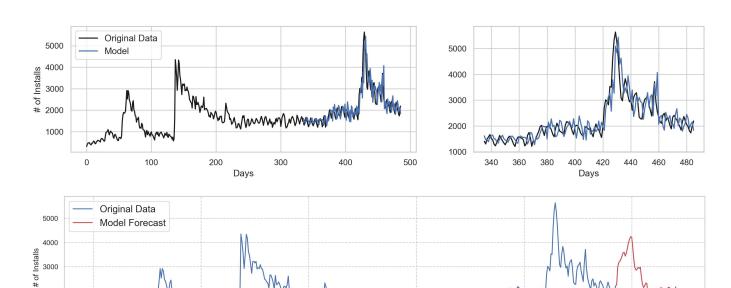
Key Insights

- 1. When the promotion takes place, the number of installations greatly increases.
- 2. Follows a slow decay and a stabilization to a number of installations larger than the one present before the promotion took place.
- 3. The number of installs shows a weekly seasonality.
- 4. Increasing the money spent on Google or Facebook does not strongly relate to an increase of installations when the promotion is not taking place.
- 5. There is a positive correlation between the number of installations and its lagged values. A linear regression model was therefore built.
- 6. The best model can explain 72.1% of the test dataset variance and it produces predictions which differ on average by 14.1% from the actual values.
- 7. Thanks to the marketing campaign, the app was installed 40380 additional times.
- 8. Thanks to the marketing campaign, the app daily installations increased by 7.7% for a total of 70.000\$ spent in 4 weeks.

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15.03.2024, V. Ganci, GitHub Portfolio



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