

TV CAMPAIGN PERFORMANCE ANALYSIS

Is buying TV airtime reasonable or not?

PROBLEM DESCRIPTION

Dataset:

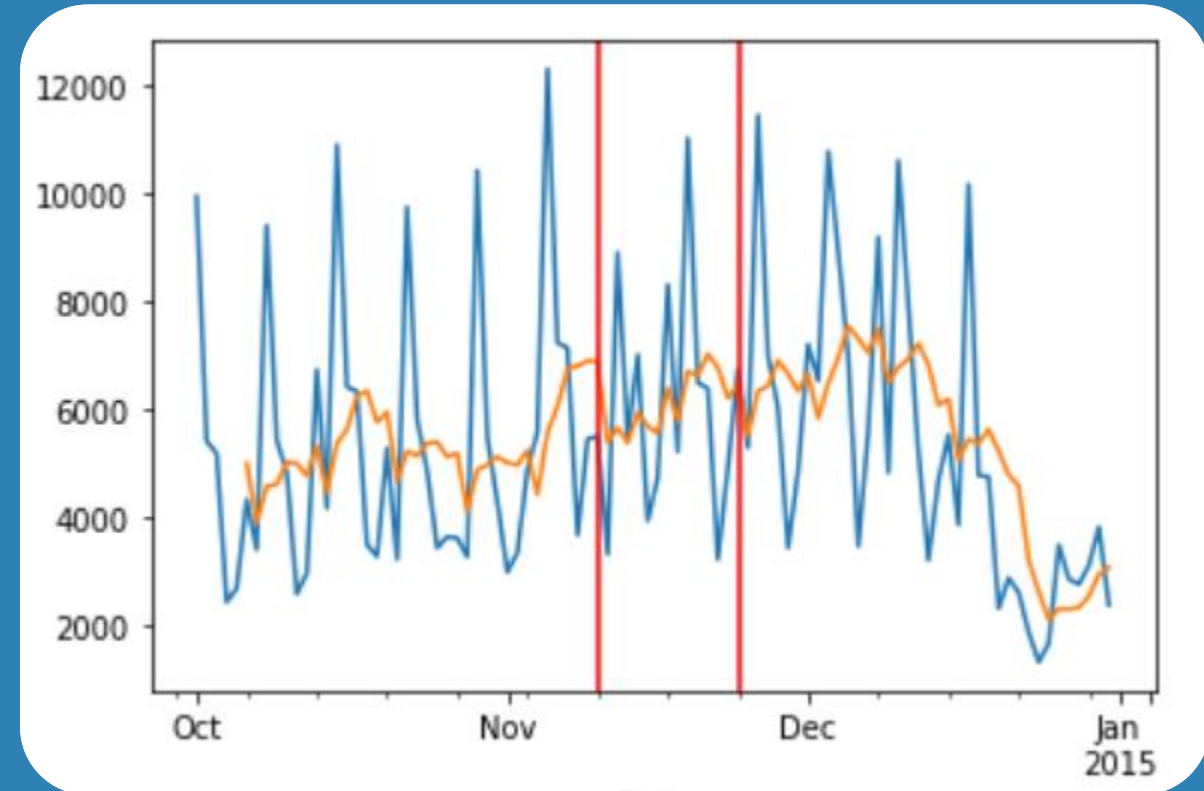
- Visits – measurement of traffic on the website in particular time (period: 3 months)
- Spots – list of ads displayed in particular time with characteristics (period: 2 weeks)

KPIs:

- Number of visits on the website per hour
- GRP - total impressions of the ad related to the size of the target population

Questions:

- Did TV ad campaign influenced the number of visits on the website?
- Which features in ad display (i.e. position in the blocks of ads, TV channel) were the most efficient in targeting the audience?



Visualization presents mean of the visits per day (in blue), its smoothed version (orange) and boundaries representing the period of ad display (red)

AD CAMPAIGN INFLUENCE ON THE TRAFFIC ON THE WEBPAGE

Steps performed in order to check the relationship between spots and visits:

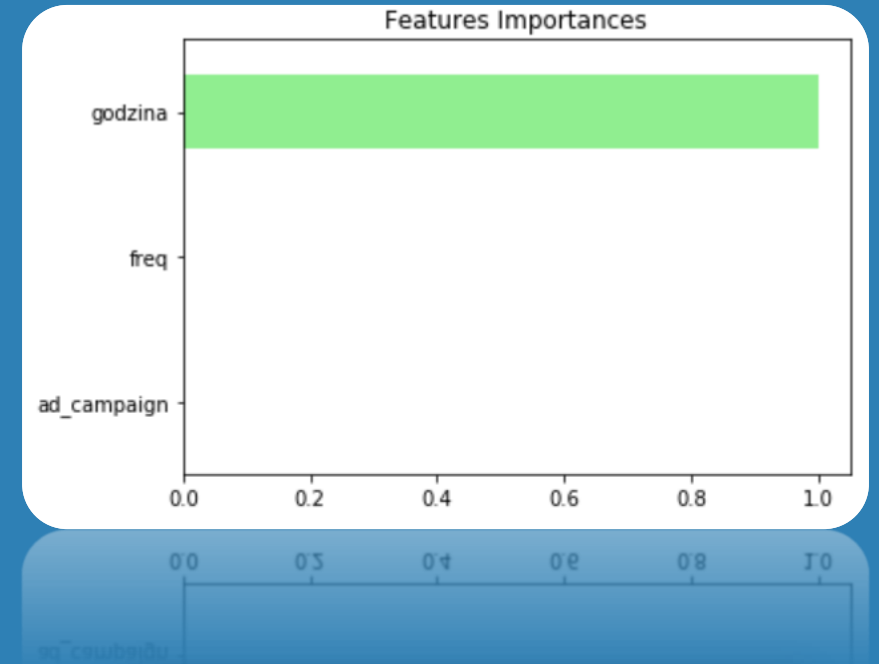
- Cleaning
- Aggregation
- Modelling

Methods used:

- Decision trees:
 - Regressor (target: number of visits)
 - Classifier (target: presence of the ad campaign)

Results:

- Randomness in predicting the category (visits during the ad display or not) > ROC = 0.5
- Number of visits dependent only on time (hours)



2014-10-22	9742.291667
2014-10-01	9936.458333
2014-12-17	10157.916667
2014-10-29	10414.958333
2014-12-10	10600.958333
2014-12-03	10772.083333
2014-10-15	10892.708333
2014-11-19	11012.791667
2014-11-26	11442.750000
2014-11-05	12299.875000

FEATURES OF THE AD CAMPAIGN

Steps performed in order to check which spots are the most likely to reach desired audience:

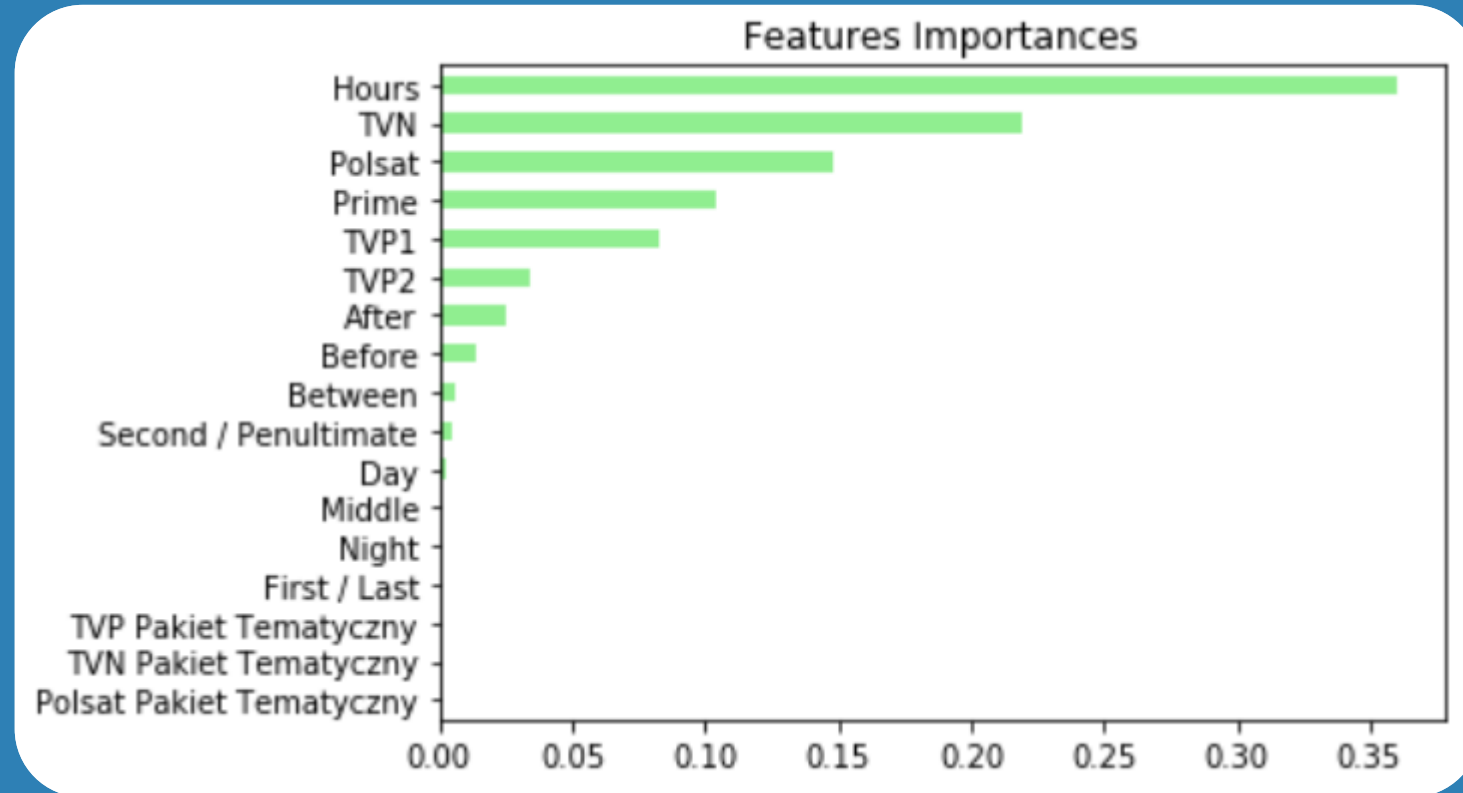
- Cleaning
- Encoding categorical variables
- Modelling

Methods used:

- Decision trees:
 - Regressor (target: GRP rate)

Results:

- $R^2 = 0,65$
- Root Mean Squared Error = 0,108



CONCLUSIONS AND RECOMMENDATIONS

After the analysis we can draw the conclusions:

- Exploratory data analysis and models showed that TV campaign had no effect on the traffic on the website
- However, considering GRP indicator, the most important features of the spots were:
 - Time of display (prime airtime)
 - TV Channel (preferably TVN, Polsat, TVP1&2)
 - Display RIGHT AFTER the program

Recommendations:

- The company should try another medium, i.e. promotion via Internet using Google, Facebook.
- Longer TV ad campaign with focus on above mentioned features could be considered
- The quality of the ad content should be double-checked and improved if needed.

THANKS FOR YOUR ATTENTION