iFood Data Analyst Case – Campaign Analysis

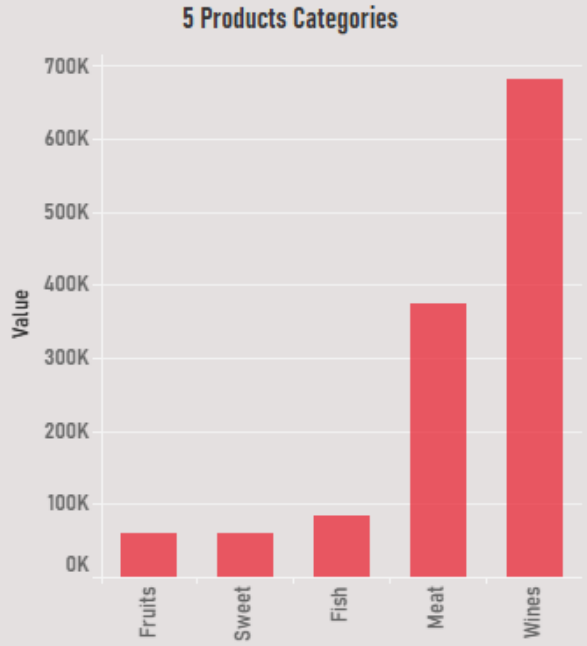
- Target: Help Marketing Team to improve the performance of the nex campaign, which aims at selling a new gadget to the Customer Database.

- The study objective is to build a predictive model that will produce the highest profit for the next marketing campaign. To achieve this, some steps were covered:

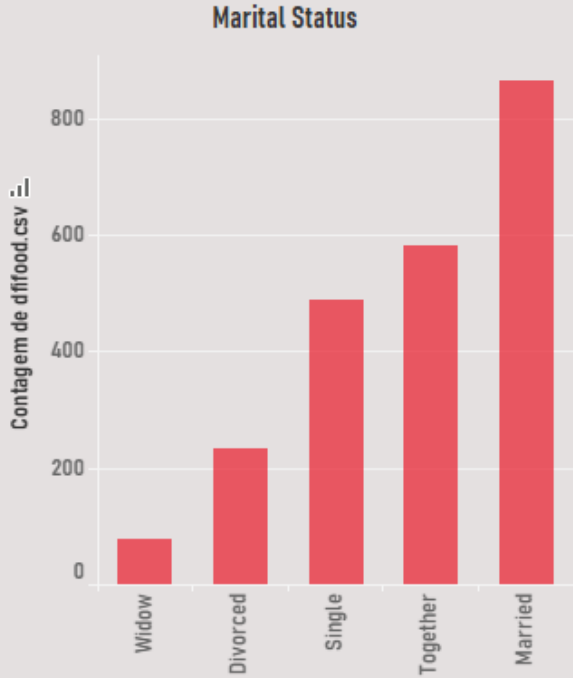
EDA – Exploratory Data Analysis

- After checking and cleaning the database (checking for null values, dropping outliers, creating new variables like age, total amount spent, acceptance score) we have the sociodemographic analysis.

2240
customers involved



WINE
sales champion



39%
married

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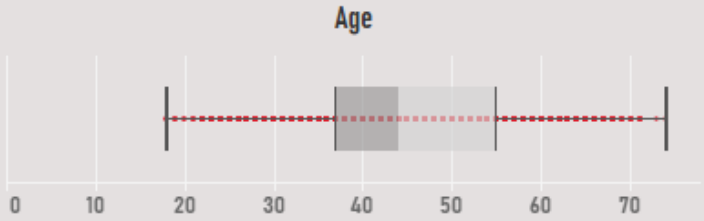
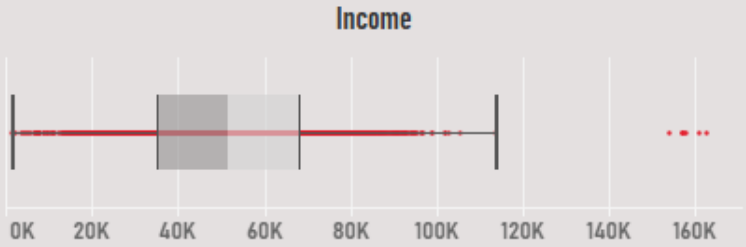


45 years
average age

Most of them do not have small children or teenagers at home



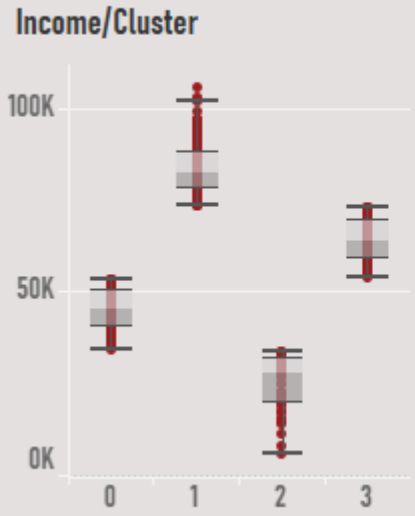
52.000
average income

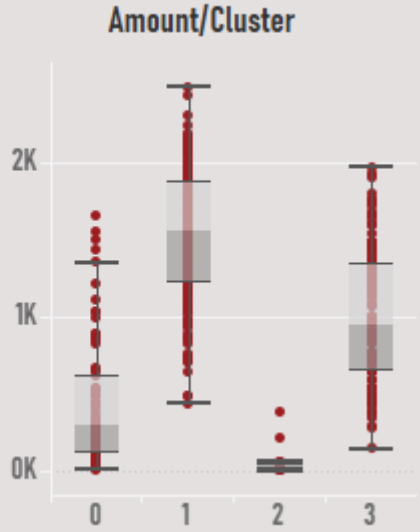
Kid at Home	
0	57,72%
1	40,13%
2	2,14%

Teen at Home	
0	51,70%
1	45,98%
2	2,32%

EDA – Customer Segmentation

- After preparing data for clustering, the K-Means model returned 4 diferente clusters based on customer characteristics.
- Groups 1 and 3 have bigger income, amount and a higher education level. They are also the ones who accept better the campaigns.





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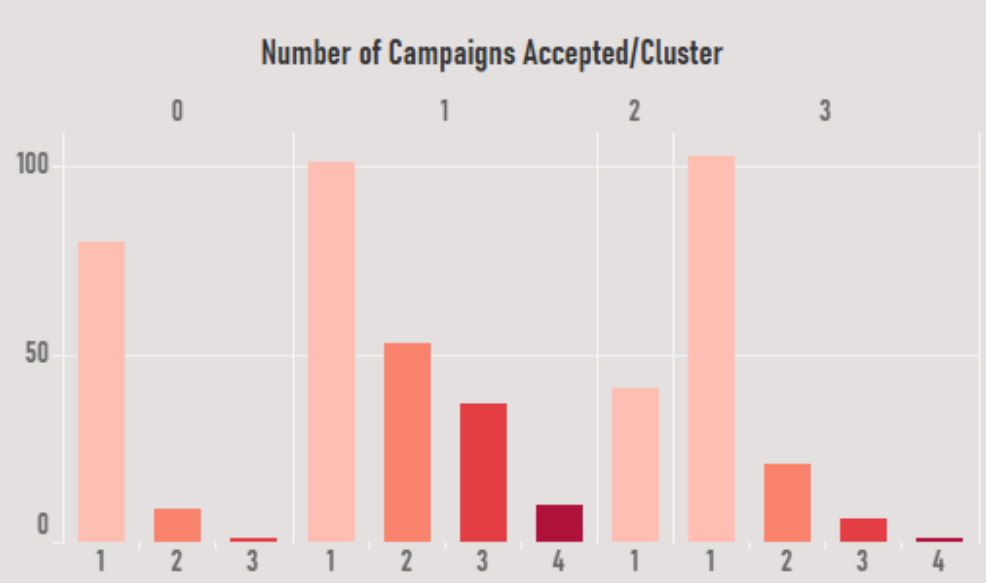
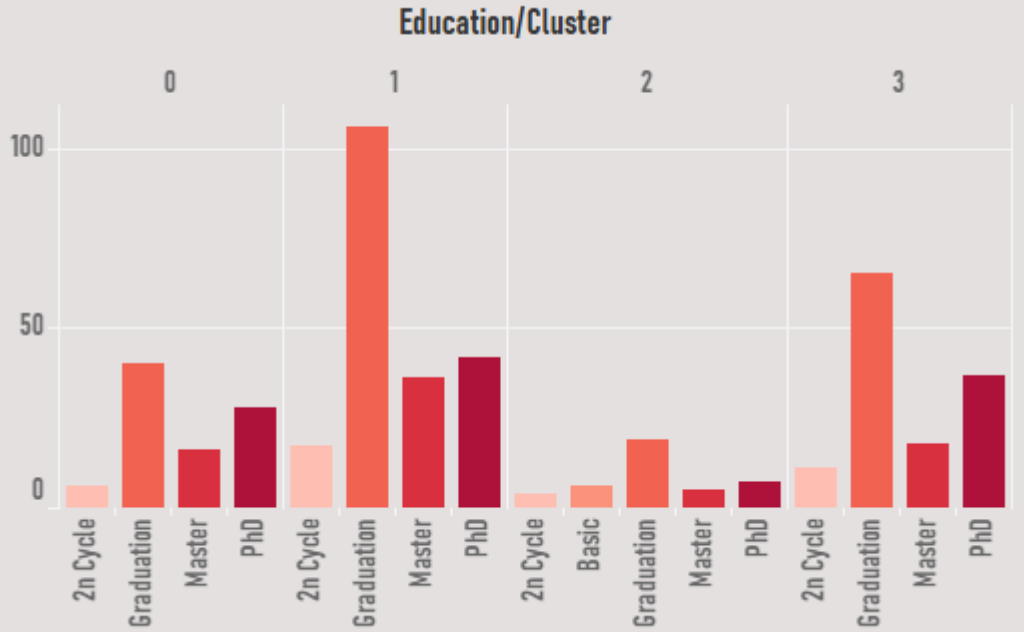
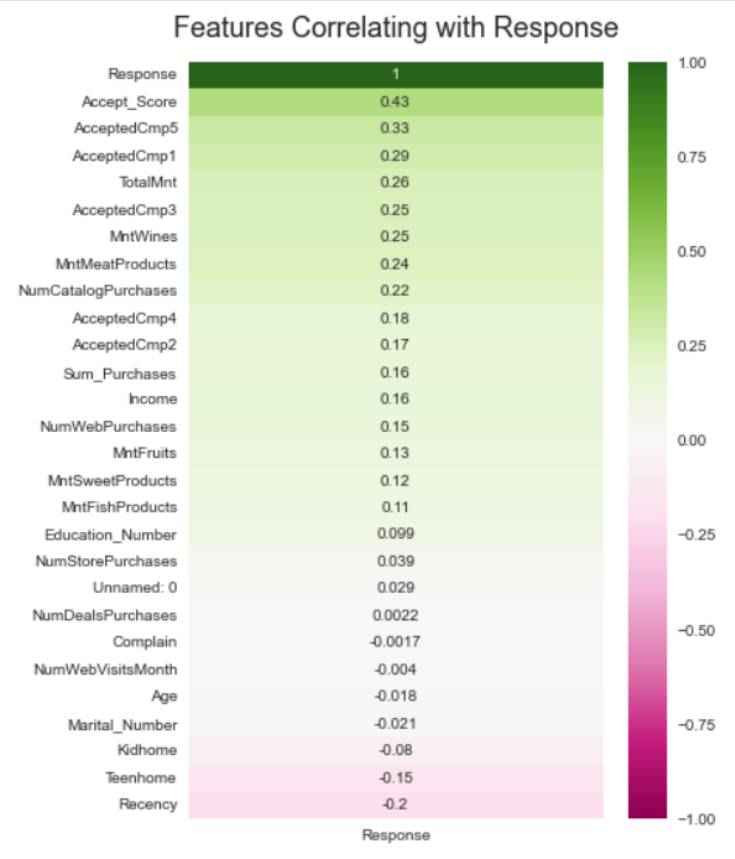
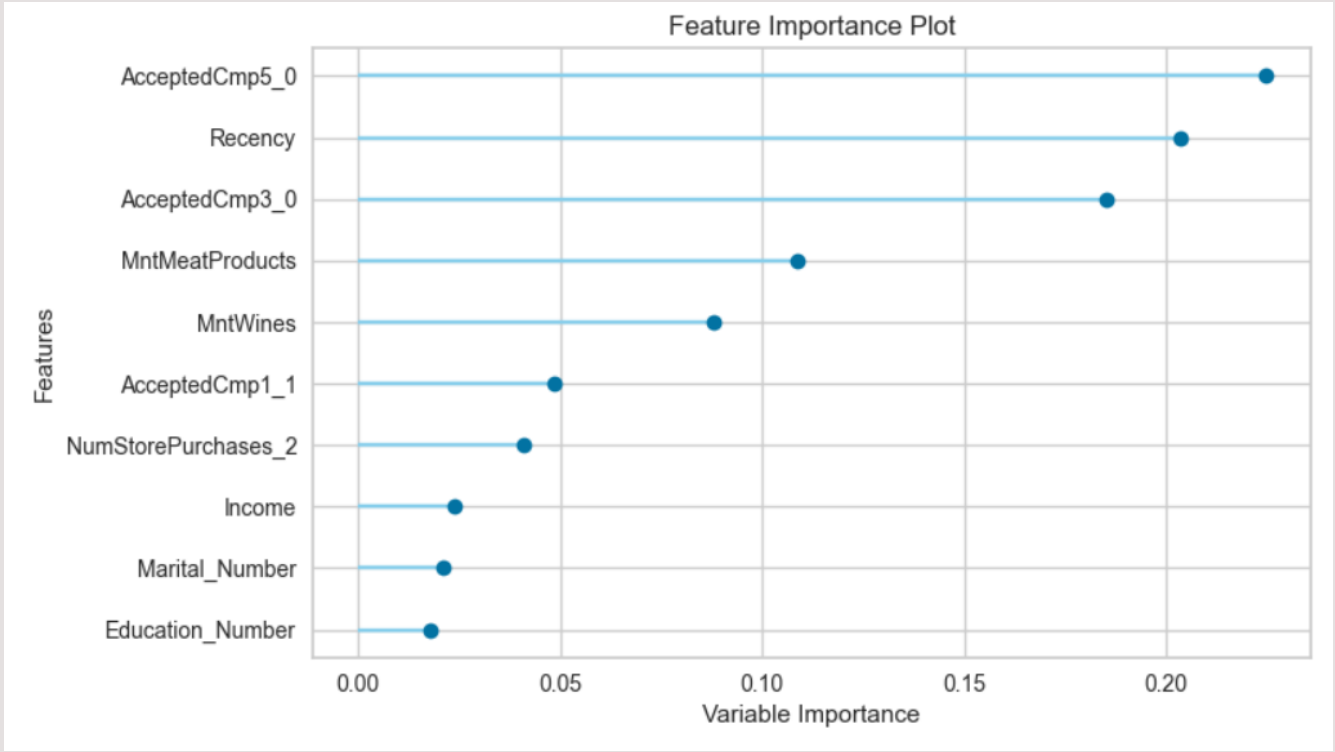




Predictive Model

- Used PyCaret to generate the model and tuning it because is very pratical and productive;
- Identified variables relevance;
- After trainning and predicting the models, I could see that the best model to solve my problem was the Random Forest.





Predictive Model

- With the model I chose to predict, I had 1985 right predictions and 255 wrong predictions, what give us a result of 88% of success and 11% of failure.

- It means that in the first scenario, with 2240 customers only 334 of them bought the gadget and 1906 didnt.

- If they already had that model, it would have told them that 88% of people who didnt accept the offer would do that (1906) = 1677, we would send the offer only to 11% of 1677: 185 customers + the 334 customers who accepted. We could have spend only 519x3 - 1557MU.

- With 3674 of revenue it would give us a profit of 2117MU.

- The analysis and dashboards/story were also made in Tableau:

https://public.tableau.com/app/profile/carolina.tavares.sancho.monteiro/viz/Case_DA/Case_IFOOD

Thanks!

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