



THE ONLY EASY DAY WAS YESTERDAY

Results Summary



sm

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What's the problem, and how do we solve it
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Meaning of the numbers

Change to Non-Use:

Why it is a Serious Problem



- Teachers using **other** material, **not** published textbooks
- Industry-wide trend, **major** problem for all publishers
- SM in Navarra: 43,504 cases → ~ **€6.3 million** lost
- €960 potential savings per case prevented



Objectives

Creating a Data Solution

- Explore the industry data

Find the most useful insights

- Place focus on balancing the data

- Create a classification model

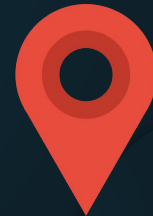
Make binary predictions on change to non-use

Data Preparation

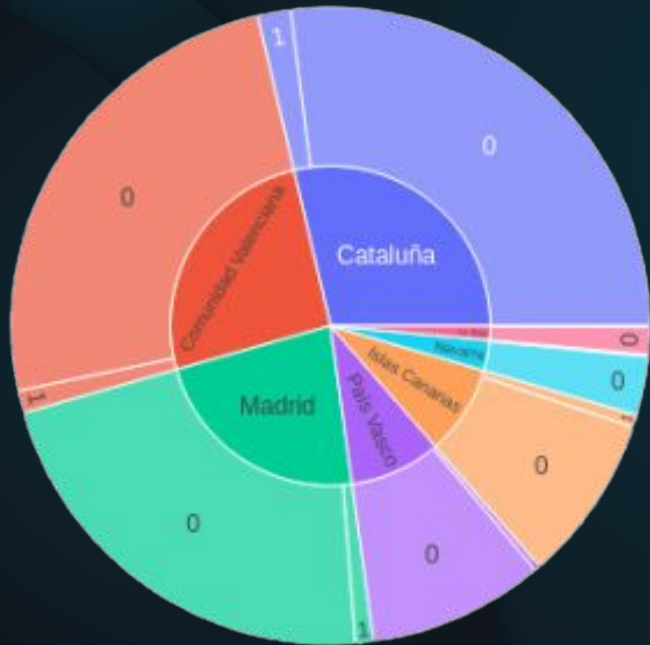
Variable transformations

Variable creations

Reverse Geocoder



Segmentation & Strategy



1

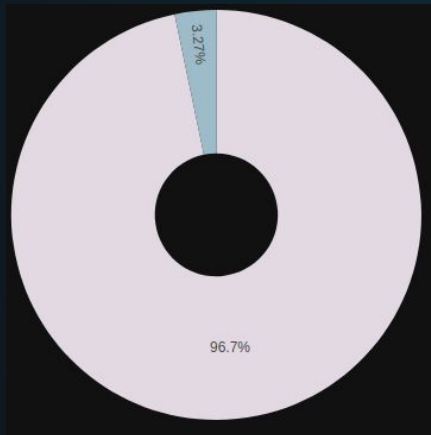


2

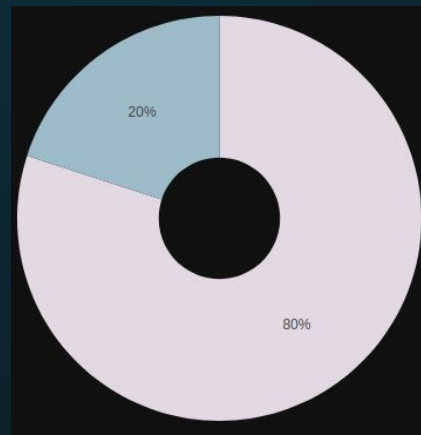


Balancing Data

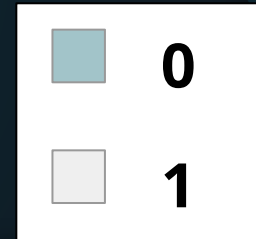
KNN



Oversampling



Undersampling



Criterion of Competitive Model Selection

A light blue circle with a white border, containing the word 'Recall' in white text.

Recall

A light blue circle with a white border, containing the text 'ROC AUC Curve' in white text.

ROC
AUC
Curve

A light blue circle with a white border, containing the word 'Precision' in white text.

Precision

Model Performance: Navarra

7 Regions: ExtraTrees -- 1 Region: RandomForest

	ROC_AUC	Recall	Precision
Navarra Fitting	0.92	0.89	0.39
Navarra Validation	0.94	0.92	0.43

Savings Summary

Business Problem

43,504 cases



€6,305,884.26

Lost Revenue



Poaching Potential

€ 34,835,149.06

Savings Estimation

€5,738,354.68



OUR SOLUTION



- ❖ School and Class level
- ❖ Safe list
- ❖ Geo Clustering
- ❖ Model for Natural Winback Probability
- ❖ Map Interface



CONCLUSION

Our model is designed for business expediency.

We focused on Recall, to ensure you don't lose customers.

We made sure our model is tailor made through special pipelines.

Specific Binary Files, for ideal fitting.



THANKS!

Does anyone have any questions?

ssinghal.ieu2018@student.ie.edu

kjuhl.ieu2018@student.ie.edu

apernia.ieu2018@student.ie.edu

cbarbagallo.ieu2017@student.ie.edu