Marketing Engagement Index

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Project Context and Overview

Problem Statement

CTI Marketing wants to develop a data-driven tool to quantify Financial Advisors’ degree of cross-channel marketing engagement. This could help in providing qualified marketing leads to the Sales team. Utilize analytics to gain insights on engagement, and determine:

- **WHO:** are the most engaged advisors
- **WHY:** engagement improves or decreases
- **WHAT:** marketing actions lift engagement
- **WHEN:** to flag marketing quality lead for Sales

Methods

A credit score-like approach

We want to build an interpretable and additive model that scores marketing interactions. One method to do so would be setting scores that replicate business knowledge on engagement contribution. We instead want to use machine learning to learn the points from the data. This context is analog to credit-scoring, where models are required to have those same properties.

Dataset Description

FA Attributes

Email engagement

Website engagement

Events Engagement

Conclusions and recommendations

Scoring overview, Engagement Insights and Conclusions

Let’s look at a few properties of the scores. Those MEIs were all computed on our holdout subset of advisors, for monthly observations windows from April 2020 to April 2021.

Score distributions: The global distribution is skewed towards 500-600 score range. Let’s focus on the top 5% of advisors in terms of MEI:

- Active advisors are more engaged than prospects
- 3 engagement levels seem to appear from data

Identify Quality Leads: Ability to flag identify high-propensity-to-convert leads for sales in a regular, repeatable and understandable fashion.

Next steps

- Model is currently being put into production by CTI Data Engineering team
- Strategic meeting with Sales and Marketing Leaders to discuss how to integrate model to operations

Our contribution

- Built a robust and production-ready model pipeline, from feature engineering to scoring output
- Demonstrated confidence in model performance and scoring behavior, through an extensive verification procedure and statistical analysis
- Provided insights on who are engaged advisors and what are the most effective drivers of engagement
- Built clear visuals to communicate results and embark Sales and Marketing audience on model characteristics and range of applications
- Provide recommendations on future data enhancements, that can get seamlessly folded into the modeling process
- Handled out model that can be “cloned” and adapted to address other key opportunities in the marketing-sales ecosystem at CTI

Evaluation of Modeling

Discriminative power of the MEI:

For each threshold in the index, we take out-of-sample advisors whose index is above the threshold. We compute the ratio between the proportion of engaged advisors, and the general population, showing that the MEI is up to 9 times more discriminant than random:

\[ \text{Points}_{ij} = (\beta_0 + \text{WOE}_{ij} \cdot \frac{\alpha}{\text{Factor}} + \text{Offset}) \]

The model differentiates propensities to convert even further among ‘top’ advisors (based on MEI):

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