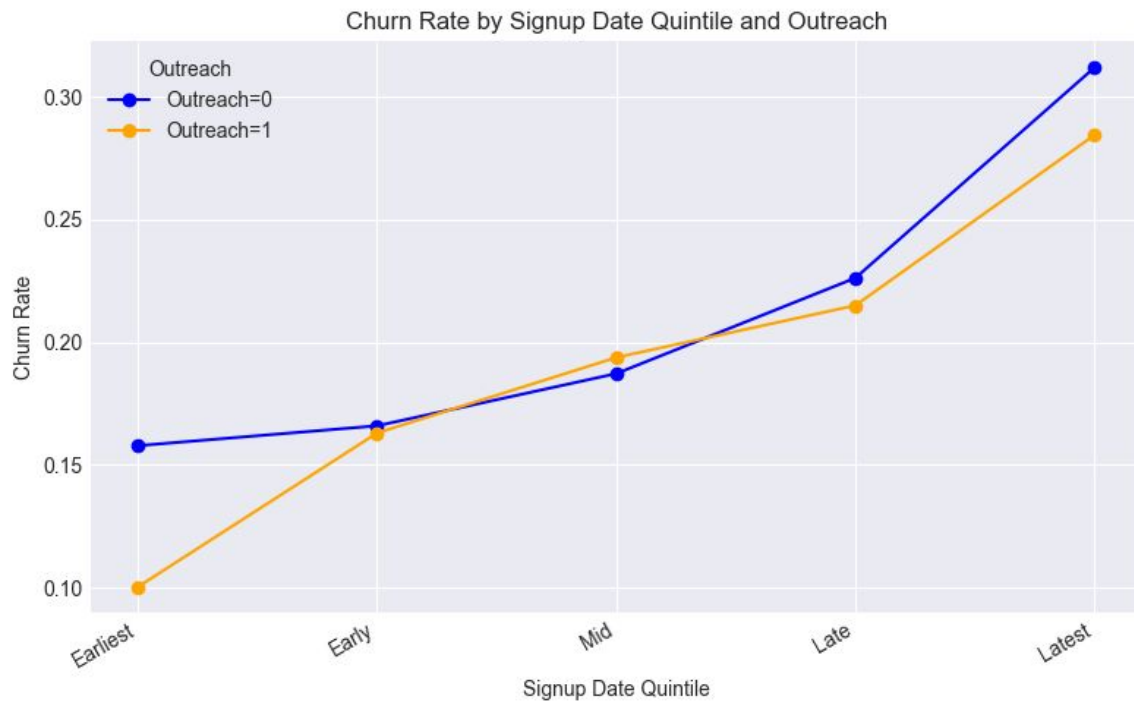


Smarter Outreach: Finding Who to Reach— and Who Not To

Outreach Impact



Initial insights

1. Intuitively, it seems that the churn rate isn't significantly lower among the population that received outreach compared to those who didn't.
2. In addition, churn tends to increase for members who signed up more recently.

Purpose

The goal is to identify which population has the greatest potential for improvement through outreach — in other words, where reaching out is most effective in reducing the likelihood of churn.

Two-Model Approach to Evaluate and Rank Outreach Impact

We want to see how outreach affects the chance of churn.

To do that, we'll train two models:

- **Model 1:** People who didn't get outreach — shows how likely they are to churn without any intervention.
- **Model 2:** People who did get outreach — shows how likely they are to churn after being contacted.

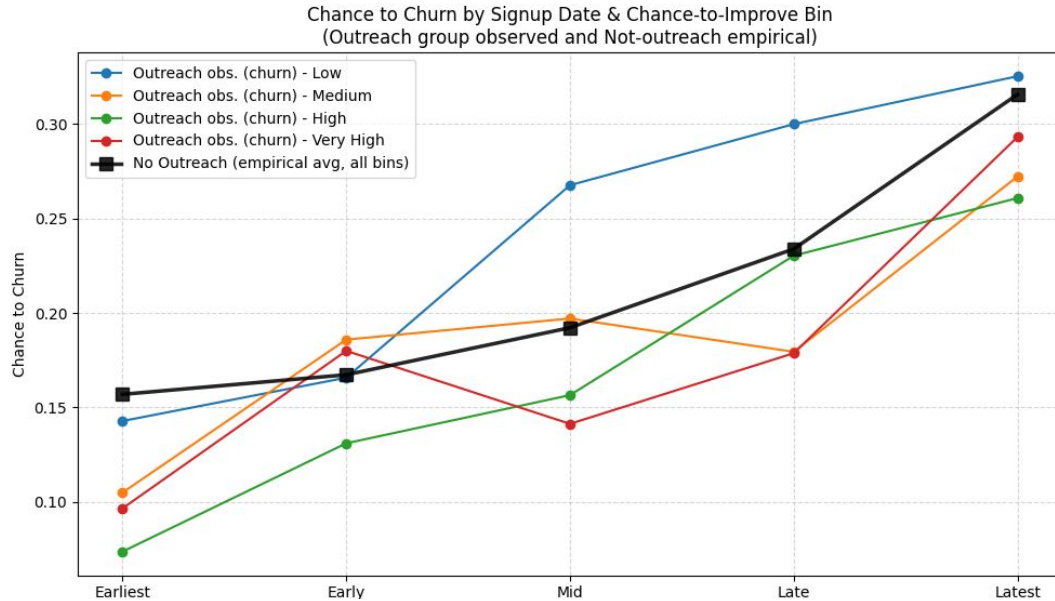
The difference between the two shows how much outreach helps (or hurts) — revealing who actually benefits from being reached out to.

Equation: Outreach Impact = $P(\text{churn} \mid \text{no outreach}) - P(\text{churn} \mid \text{outreach})$

- A **positive value** means outreach reduces chance to churn.
- A **negative value** means outreach might make things worse.
- The **value itself** can also serve as a **priority score** — the higher it is, the more worthwhile it is to reach out first if your resources are limited.



Insights and Conclusion from Outreach Impact Analysis



Initial Insights

The model correctly ranked most groups according to their potential to improve behavior after outreach.

Some groups, however, showed that outreach can **do more harm than good** — their churn increased after being contacted.

Conclusion

Using the ranking helps **target outreach where it truly reduces churn.**

There's a **clear threshold** beyond which outreach becomes counterproductive and should be avoided.

Outreach Effect by Improvement Group -

Goal: Compare churn between outreach and non-outreach members.

Results:

- **Low:** 20.7% → 24.2% ↑ — churn **increased** ($p = 0.013$)
- **Medium:** 20.7% → 19.1% ↔ — **no significant change** ($p = 0.23$)
- **High:** 20.7% → 16.7% ↓ — churn **reduced by 4 pts** ($p = 0.003$)
- **Very High:** 20.7% → 17.7% ↓ — churn **reduced by 3 pts** ($p = 0.026$)

Takeaway:

Focus outreach on **High / Very High** groups — proven positive impact.

Avoid **Low** group — outreach may **increase churn**.

Rank list

After validating that the ranking model accurately identifies which members are more likely to benefit from outreach, we selected the members who **haven't been reached out to yet** and **haven't churned**.

This group forms our **next outreach list** — the target population for our upcoming engagement strategy.

Higher rank

| | id | score | rank |
|---|------|----------|------|
| 0 | 4590 | 0.198745 | 1 |
| 1 | 3159 | 0.174379 | 2 |
| 2 | 1032 | 0.168192 | 3 |
| 3 | 4784 | 0.167891 | 4 |
| 4 | 5668 | 0.166745 | 5 |

Lower rank

| | id | score | rank |
|------|------|-----------|------|
| 4763 | 19 | -0.137634 | 4764 |
| 4764 | 6287 | -0.145452 | 4765 |
| 4765 | 2389 | -0.169267 | 4766 |
| 4766 | 8064 | -0.180072 | 4767 |
| 4767 | 6466 | -0.184052 | 4768 |