GAMMA Hackathon

2020-11-18

Ways of working

You will be in groups of 2-5 persons delivering **one** submission per group

If you are not co-located in the team, we suggest you to have frequent check-ins with each other using the communication tool of your choice
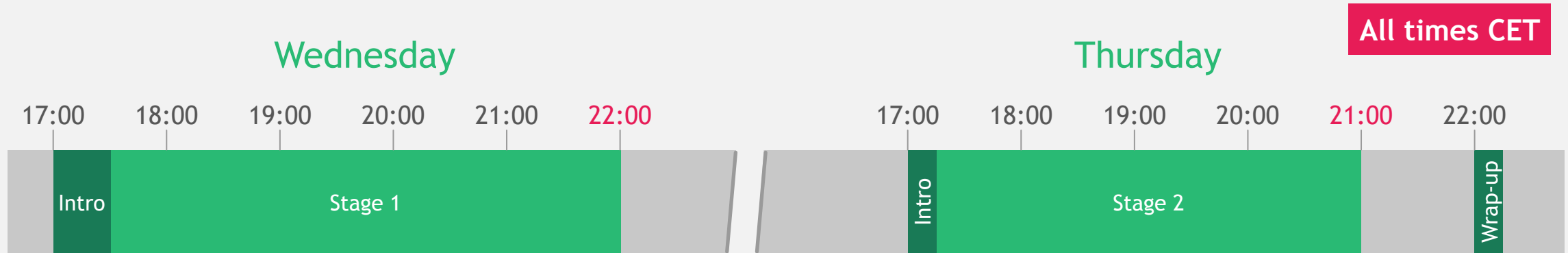
For code collaboration we suggest you make a shared repository on **GitHub,** this way the team can easily split task on data cleaning, visualisation and modelling

Each team will be assigned a Gamma consultant, with whom you can schedule check-ins if you are stuck, need validation of approach or something else

Overview of GAMMATHON timeline

Wednesday

17:00   18:00   19:00   20:00   21:00   **22:00**

Intro | Stage 1

Thursday

17:00   18:00   19:00   20:00   **21:00**   22:00

Intro | Stage 2 | Wrap-up

- Competition will start after this intro session
- You **must** send in your stage 1 submission **before 22:00**
- Competition will then adjourn until Thursday 17:00
- There is no benefit in continuing to work during the pause

- Competition resumes at 17:00
- You **must** send in your stage 2 submission **before 21:00**
- Quick break to tally the results
- Winners announced at 22:00

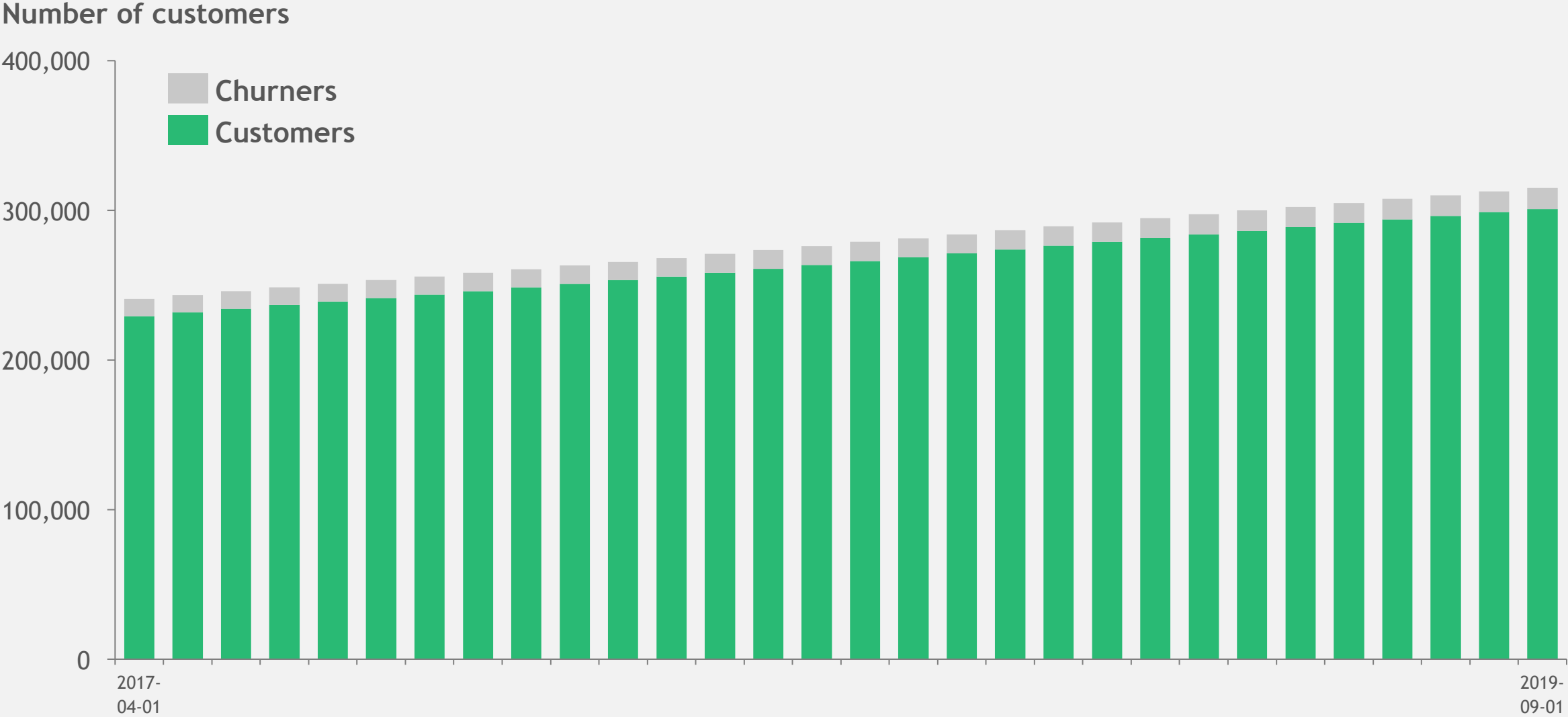**All sessions will be in the same Zoom call**

Today's challenge

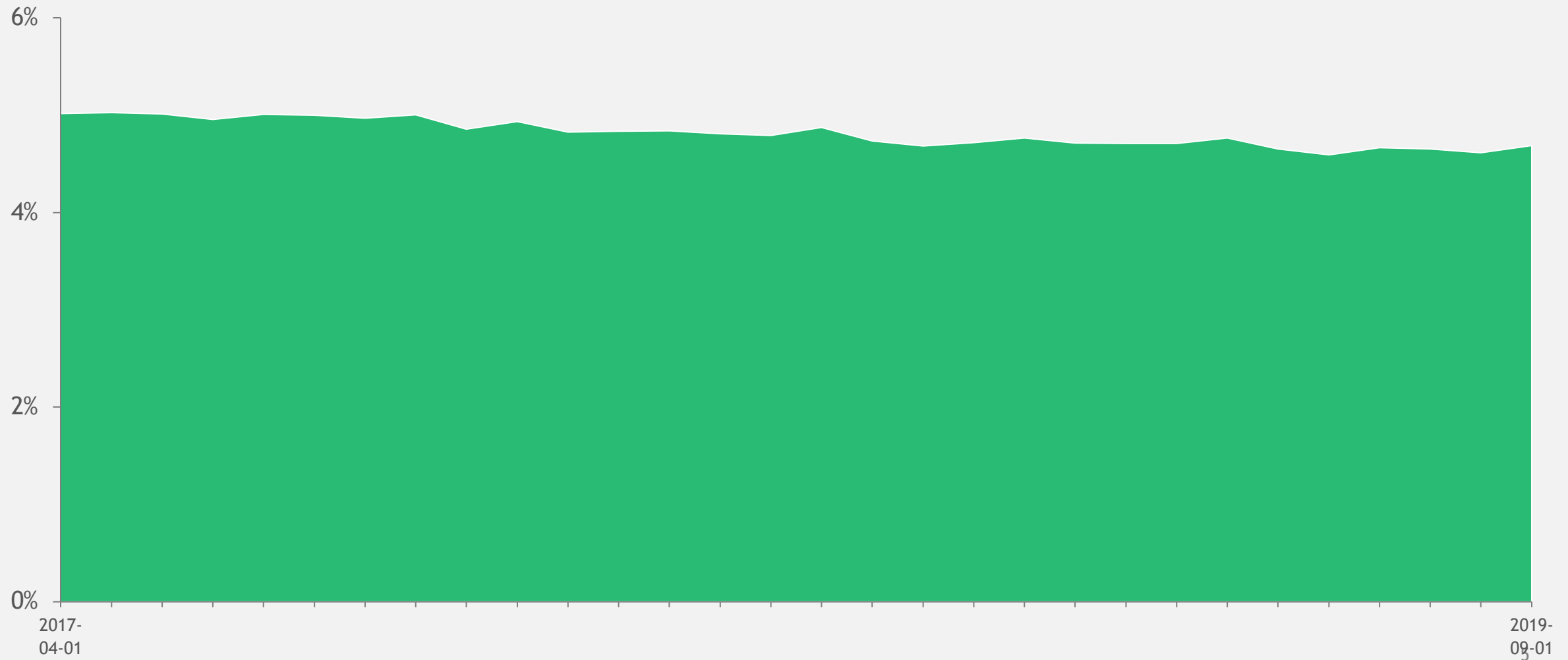Our client is Barstucks Coffee, a large coffee chain based in Seattle, WA.

- Founded in 1971
- Serves a variety of hot and cold coffee drinks and snacks
- Today's focus is on their North American loyalty program

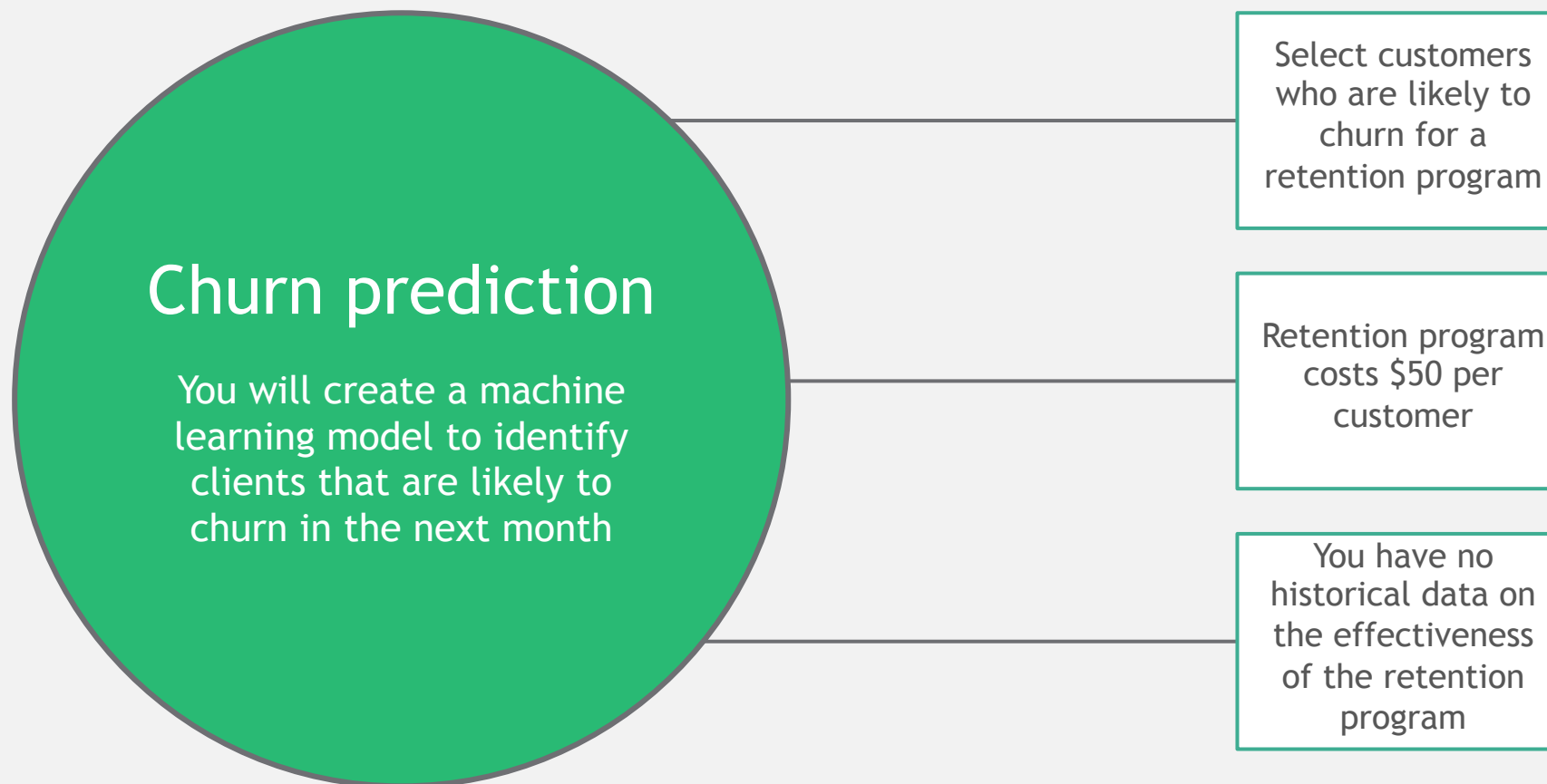# Our client's loyalty program is growing too slowly...

Number of customers

4

...due to a high churn rate

Monthly churn rate

Your task is to select customers for a retention program

Churn prediction

You will create a machine learning model to identify clients that are likely to churn in the next month

Select customers who are likely to churn for a retention program

Retention program costs $50 per customer

You have no historical data on the effectiveness of the retention program

You will compete in two stages

Historical data	Stage 1 (A/B testing)	New data	Stage 2 (Optimizing)	Evaluation

- 30 months of monthly sales data on a customer level

- Objective: Learn how customers respond to the retention program
- Action: Train an ML model to predict churn
- Action: Select customers for the retention program
- Action: Select a comparable control group
- Budget constraint: $500k

- We will generate one more month of data for each team based on the customers each team selects for the retention program

- Objective: Increase scope of retention program to maximize uplift
- Action: Analyze new data to learn how effective the retention program is
- Action: Select customers for the retention program
- Budget constraint: None

- The winners will be the team who get the lowest sum of lost customer lifetime value and retention program spend **over both stages**
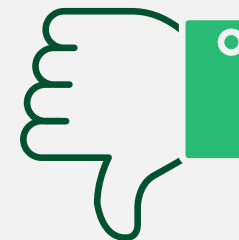
Evaluation of your retention program

Spend on retention

Each targeted customer costs you $50

$+$

CLV lost due to churn

We will calculate customer lifetime value of churners

Please note you will be evaluated on your combined spend and lost CLV over both stage 1 and 2

Ground rules

Internet

You can use the Internet during the competition

Help

You will have a BCG GAMMA data scientist who you can discuss with if you get stuck

Submission

Your will send your submission via e-mail to daugaard.sebastian@bcg.com
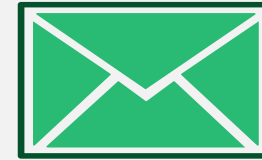
Prioritize

Submission deadline is:
Wednesday 22:00
Thursday 21:00

How to submit the results

Your submission should be a csv file containing only **one** column with **header** customer_id.

It should contain the ID's of the customers who should be included in the retention program

Email this file to: daugaard.sebastian@bcg.com

The name of the file should correspond to your team name: X.csv

The deadline for submitting your list for stage 1 is Wed 22:00 CET and for stage 2 Thur 21:00 CET

You may of course submit early

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