Background
N26 has launched a feature called “A” which is related to a specific local payment that was released in the Spanish (ESP) market (launch date: July 2022). This feature was not launched under any particular controlled experiment setup, therefore you are being asked to identify the method(s) that can help the best in trying to assess any impact of feature A against the overall company health metrics (MAU- monthly active users, PAU- primary account user) given the following historical data seen in the file test_productanalyst.csv.

Topic 1
One health metric is suggested that can help identify the impact of feature A (i.e. MAU) in this case, but what other metrics you could think of and why? Would you define PAU differently?

<u>Metrics</u>
Other health metrics:

- Retention Rate: measures if the previous month’s active user is still active
- Weekly active users (WAU): this metric is more sensitive to feature launches due to a shorter time period
- 7-Day moving average of active users: moving average smooths out seasonality, which means if there is a spike, it is not due to seasonality. Therefore, this can be better used to measure if a feature launch has an impact
- Weekly number of transactions: obtain a general understanding of the trend of this metric, feature launch should not impact account transaction functions
- Weekly account transaction revenue: obtain a general understanding of the trend of this metric

Performance Metrics:

- Monthly feature A usage rate of all users: according to the data set, count the number of users who are using feature A divided by the number of total users, which measures feature A usage rate
- Monthly feature A usage rate out of MAU: measure the usage rate of feature A in the monthly active users' cohort
- Monthly feature A usage rate out of PAU: measure if loyal primary account users use feature A
- Monthly number of transactions generated by feature A: if feature A brings a positive impact on transactions
- Monthly account transaction revenue generated by feature A: how much additional revenue can this feature generate

Growth:

- New users generaged by feature A: this is a metric that measures if feature A is able to grow current customer base
- New membership users generated by feature A: metric to measure if feature A brings new membership

- New primary account users generated by feature A: measure if feature A can convert users to primary account users

Retention:

- Retained active users
- Retained primary account users
- Customer churn rate

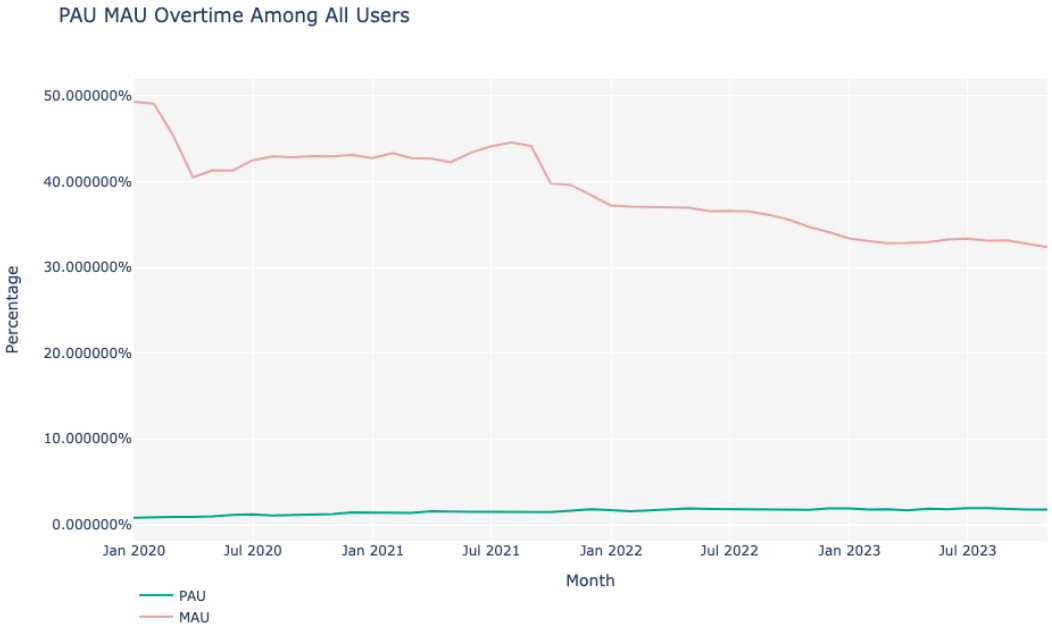
Product Cross Sell:

- Membership growth rate
- Scheduled payments adoption rate
- ETF investment usage rate
- Monthly deposit over 1000 euros account percentage

<u>New Potential PAU definition</u>:

From data analysis, PAU is a very stable but low percentage in all users. MAU has shown volatility and has an decreasing trend.
PAU has grown from below 1% to above 1.6% since Spain market launch. 50% PAU are active more than 4 months. 25% PAU are active more than 7 month. PAU is defined as users with money in and out for last 3 months.
Here are two alternatives:

- In the last 6 months a user has money in and out for at least 3 months: for example, this provides more flexibility if someone is out for vacation, may not using the account for frequent transactions
- Alternatively, PAU can be defined as monthly transactions over 800 euros: this measures who use this account for major transactions every month

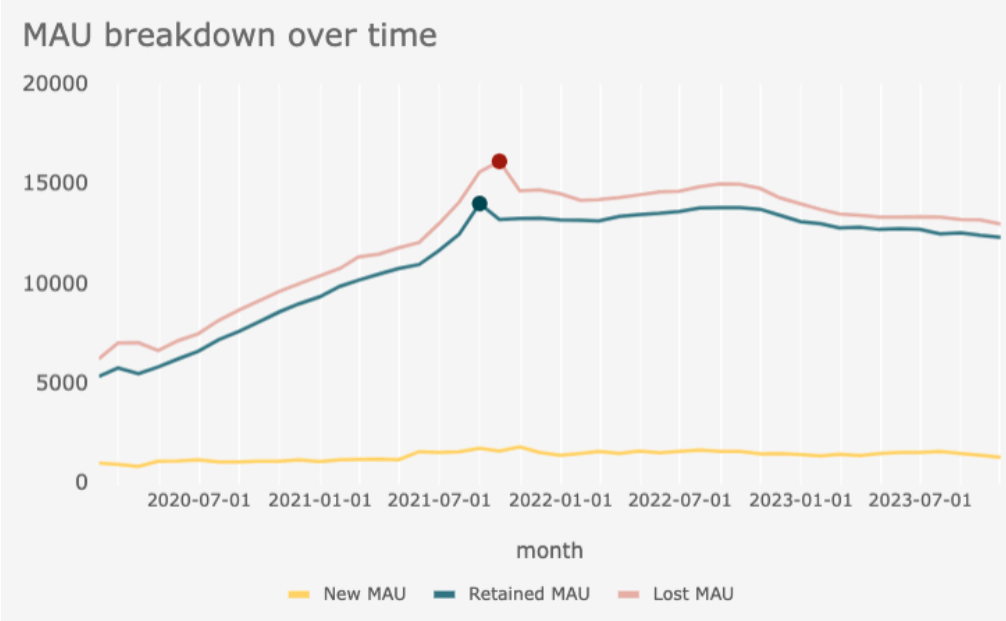


Topic 2
Which methods will you use to assess any positive or negative impact? Why? Please explain with each method what are the considerations and caveats that should be taken into account

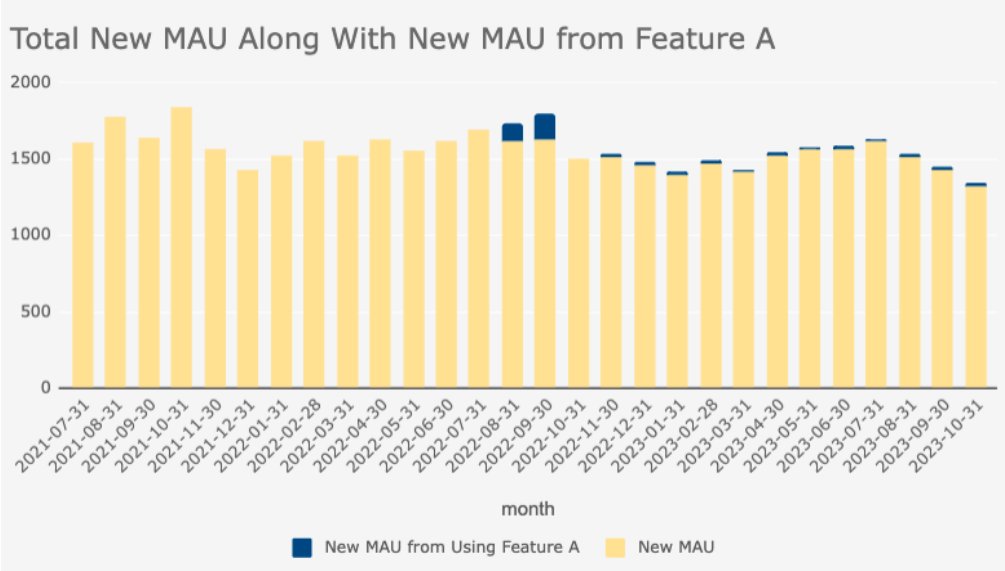
Observations in MAU, PAU over time:

MAU Breakdowns:
Lost and Retained MAU ratio (1.1) has been consistent across months, rate of losing MAU and retaining existing MAU has been slowed down after September 2021.
Two directions from this chart that can boost MAU:

1. Reduce lost MAU, convert them to retained MAU
2. Increase new MAU



Double click on New MAU:
Positive impact:
Feature A launch has brought MAU up in August 2022, September 2022, and then new MAU has stayed in the similar level as pre feature A launch.



Takeaway

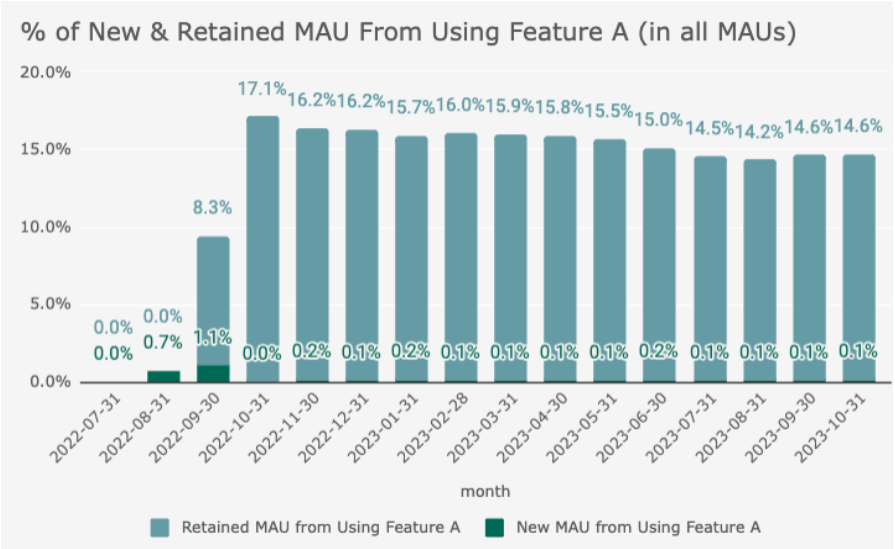
Feature A has brought short period of new MAU increase right after launch, but not able to keep attracting new MAU as the same amount consistently.

Action Item

To newly signed up users: created in app notifications and push notifications to let them try feature A

Feature A's impact on MAU Retention:

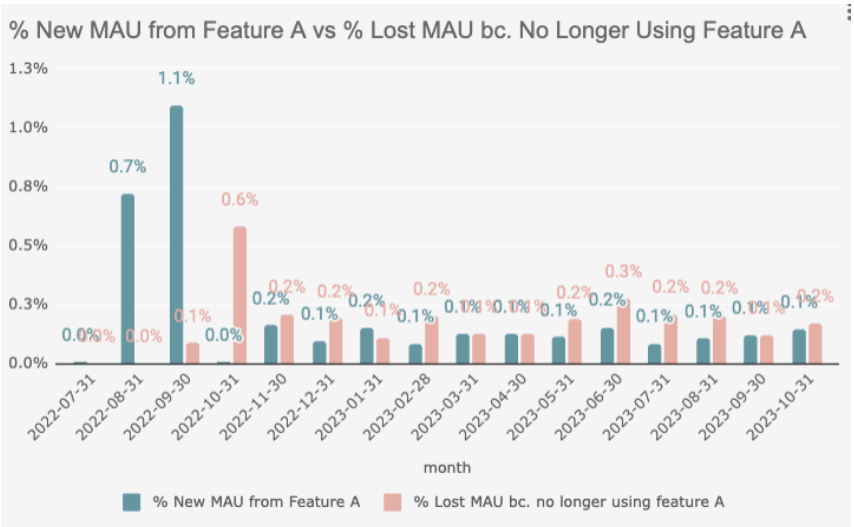
Feature A retained 14%-17% of the users to become MAU, however, the % MAU retained by using feature A has decreased by 1%-2% after 3 months post feature A launch.



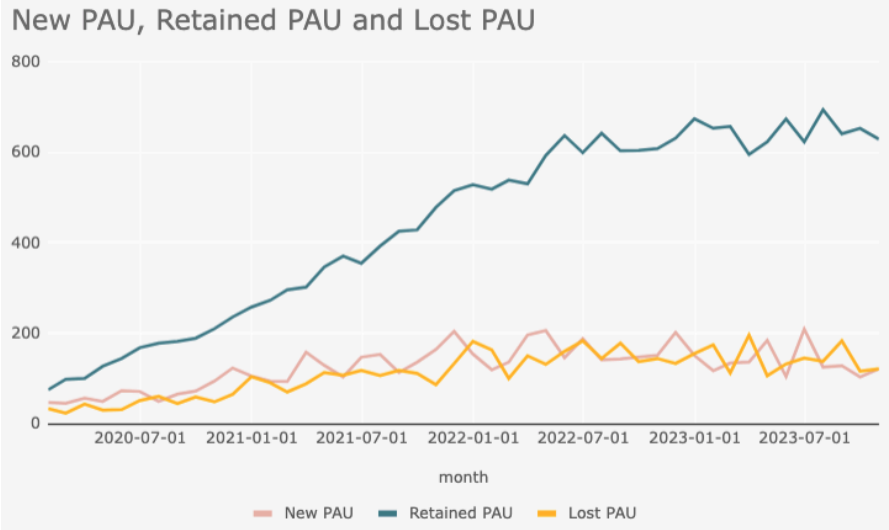
Action Item

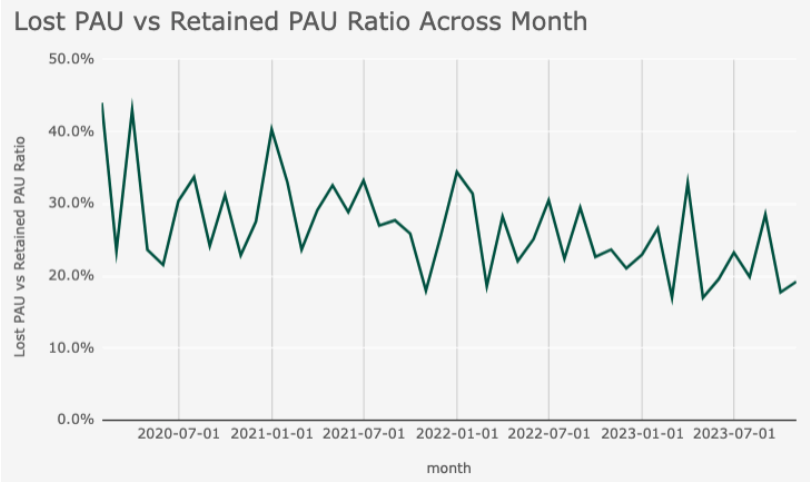
To existing MAU: create incentives programs to keep boosting feature A adoption, which contribute to bring retention of MAU up.

Feature A's contribution to New MAU, and MAU lost: lost doubles new after four months of feature launch. But this contribution is very small.



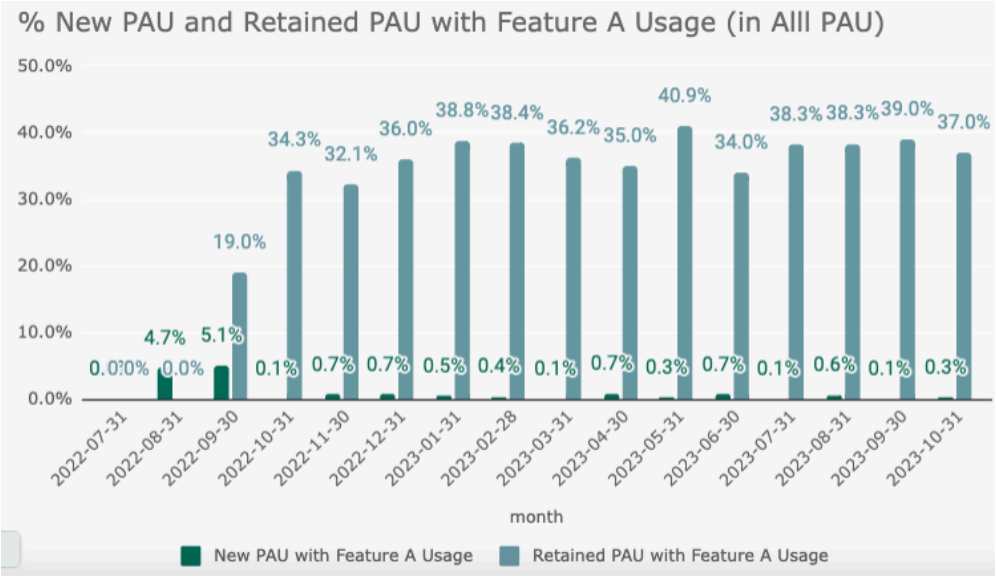
PAU Breakdowns





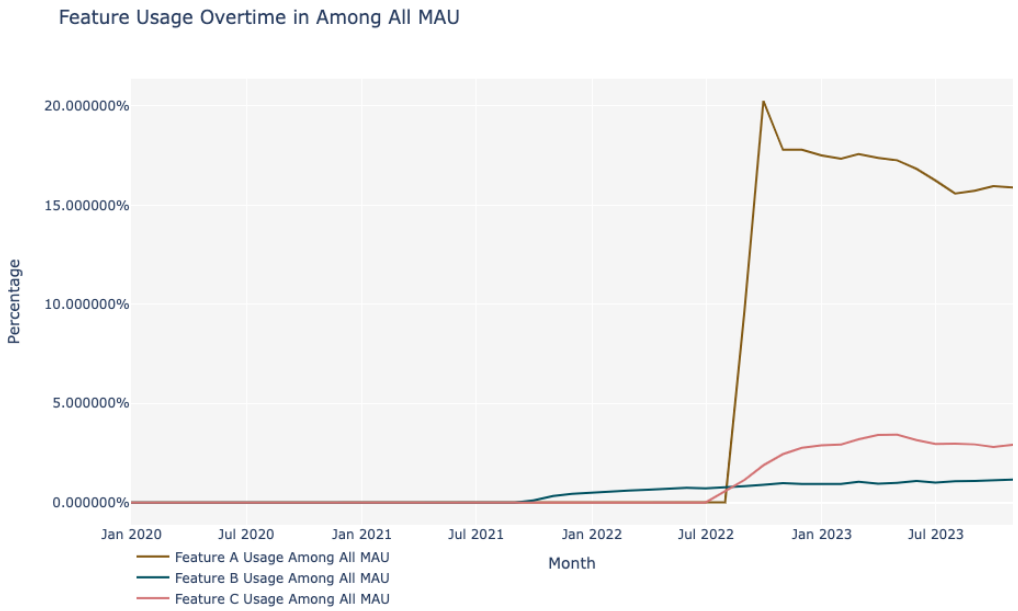
PAU retention has been increasing steadily. Lost PAU vs Retained PAU in the range of 20% - 40%, with a recent months of decline of this ratio, which means PAU has been more stably retained.

Nearly 50% PAU has feature A usage.
PAUs are very loyal to this feature consistently.



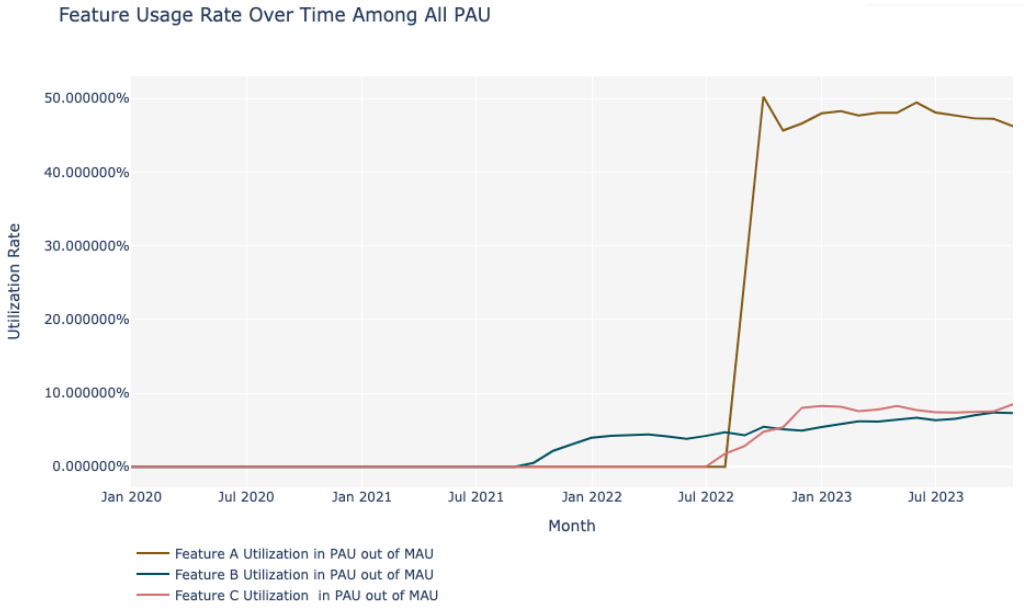
Feature A,B,C Cohort

MAU: feature cohort



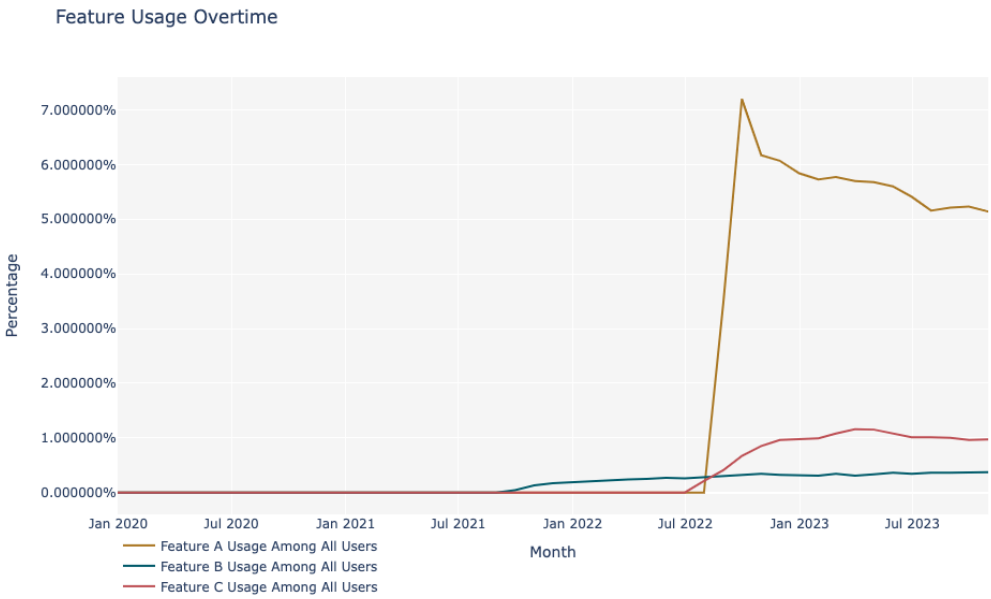
Feature A contributes to 15%-20% of MAU, now has hitting a decline.
Feature B has been steady, see small but gradual increasing trend of usage in MAU
Feature C's takes less than five percent of MAU, and decline speed is slower than MAU

PAU feature cohort:

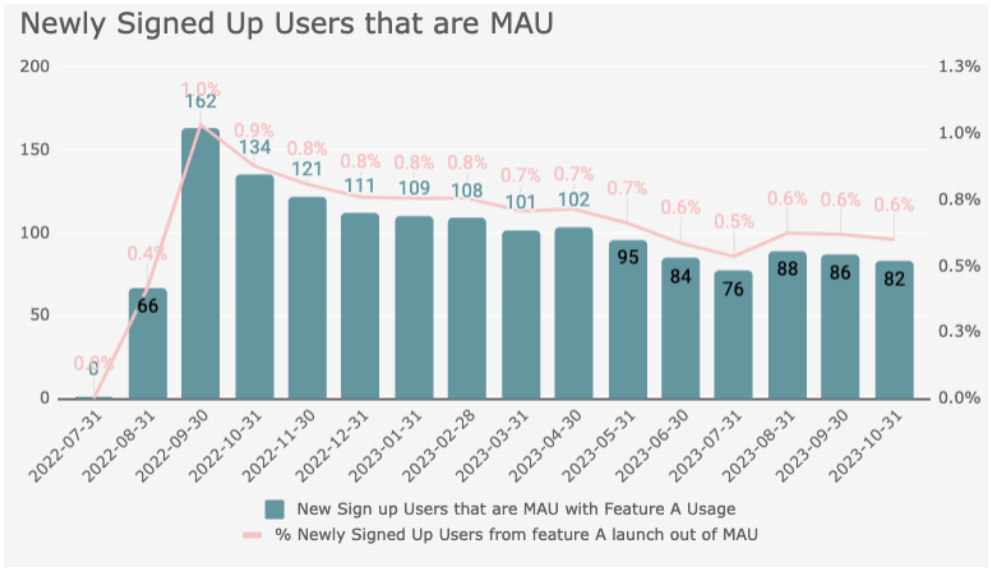


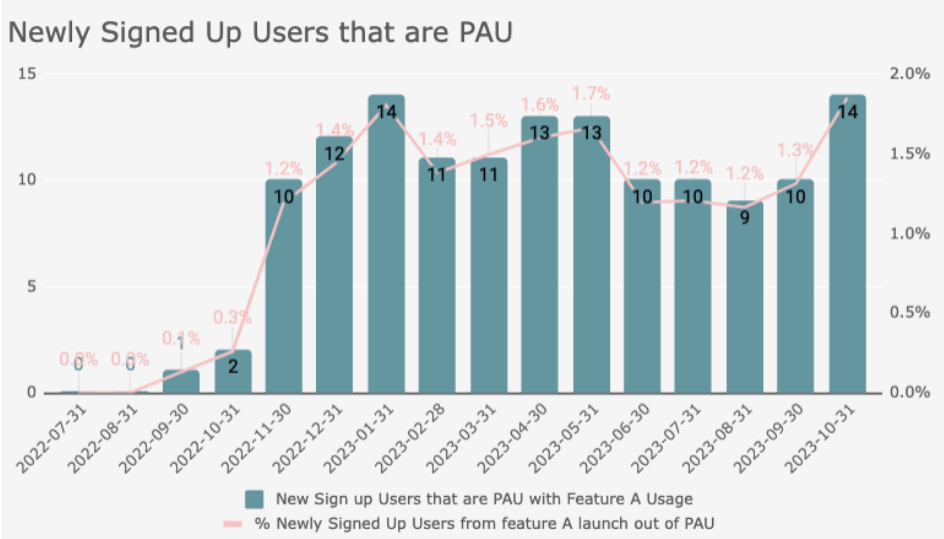
PAU has higher usage of all features compared to MAU

Feature usage among all users:



New User Sign-up





Sign up distribution