Sending Instagram App Notifications to increase user engagement

Group 16 Proposal
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Why do organizations need push notifications

Drive Traffic

A business can reach its audience by sending notifications to its customers whenever and wherever they want.

Increase User retention

Studies have shown that 49% of users abandon an app after just 1 day. With push notifications, mobile app retention can be increased by 3 to 10 times.

Increase user engagement

Push notifications with high quality content engage users by up to 88% more.

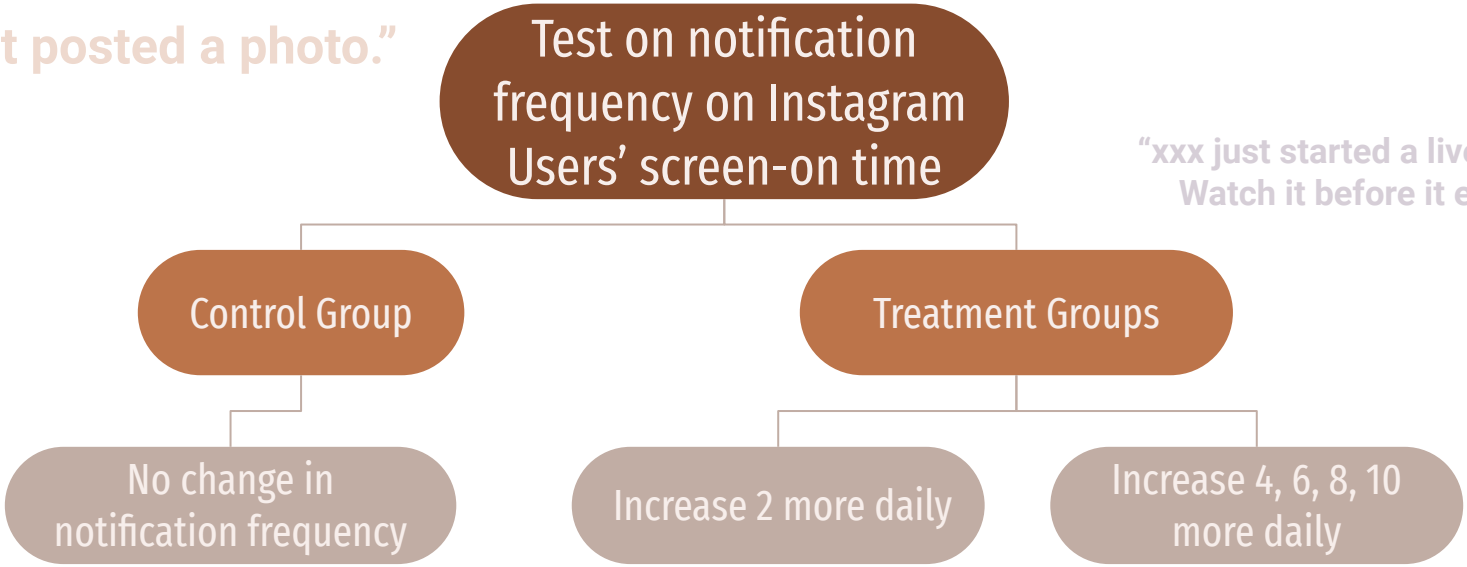
Increase monetization

Major mobile app companies make money by showing ads to users. Hence, more engagement means more monetization.

Experiment Design Idea

"xxx just posted a photo."

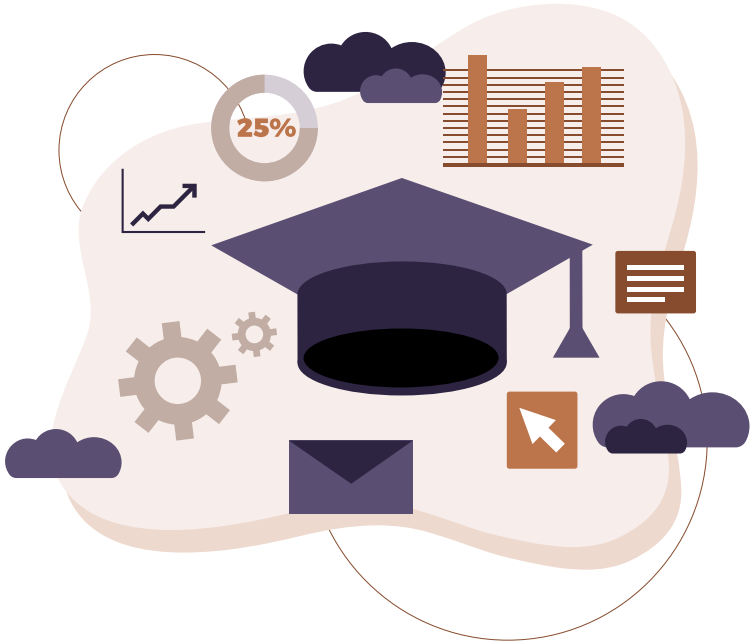
"xxx just started a live video. Watch it before it ends"



5 Treatment groups in total

"xxx brand's 'yyy product' is available to buy on Instagram in 15 mins. Tap to get ready."

Evidence Support - Pilot study



A

From the Experiment, Notifications On/Off Impacts App Usage.

B

Turn Off Notifications

Decrease 7.36 Minutes App Usage on daily average

C

Turn On Notification

Increase 1.35 Minutes App Usage on daily average

Implementation

01 Where to experiment?

Instagram

02 Who's participant?

Users of Instagram who allow the push notifications

03 How long?

The experiment will last for two weeks

04 What's happening now?

Users are receiving a small number of notifications from Instagram and churn

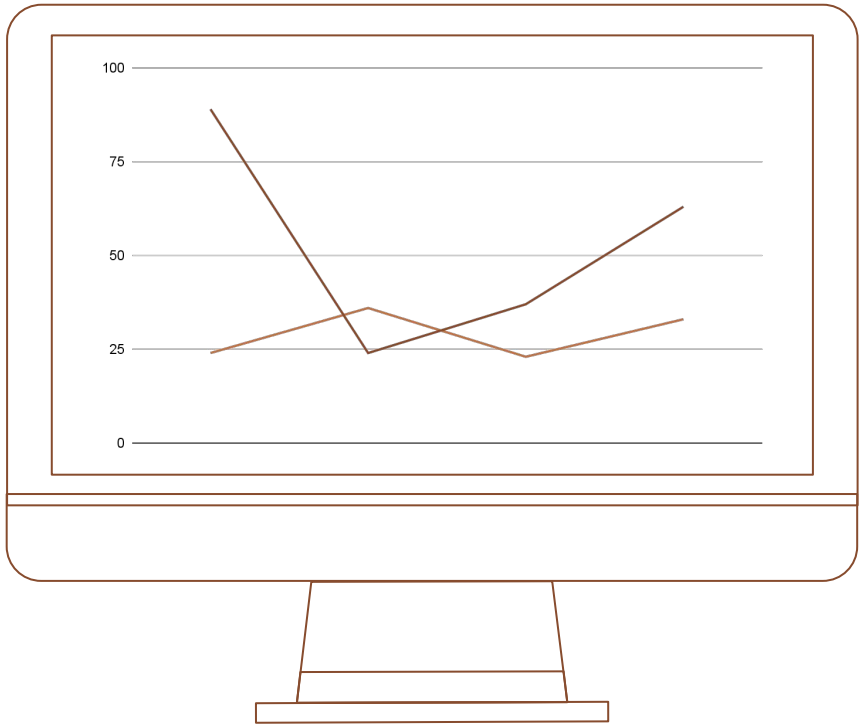
05 What to implement?

Increase the number of notifications the treatment group currently received by 2, 4, 6, 8 ,10 respectively

06 How to measure?

Record the daily screen-on time of all participant everyday

Outcomes to measure



Avg daily screen-on time

- Reflect the user engagement intuitively
- Calculate the current avg daily screen-on time of all participants and the standard deviation as the baseline
- Expect the avg daily screen-on time increase as notifications grow

Randomization

01

Recruit

- Randomly select **3600 users** of Instagram who allow notifications

02

Segment users

- Light user
- Medium user
- Heavy user

03

Randomize

- Randomize based on individuals
- Randomly assign numbers in each segment

04

Groups

- Control group:
  Remain the same
- Treatment groups:
  Increase by 2, 4, 6, 8, 10 in each group

Power calculation

δ=1.178

α = 0.05

$$\frac{\delta}{\sigma} = (t_{\alpha} + t_{1-\beta}) * \sqrt{\frac{2}{n}}$$

σ = 24.09

β = 0.8

n = 600

- MDE: avg screen-on time of treatment group - avg screen-on time of control group
- Variance: standard deviation of all participants' screen-on time before the experiment

Potential Concern

Concern

Only consider users with notifications on, ignore users with notifications off

Impact

Ignore a type of users, reduce the universality of the conclusion

Solution

Provide incentives to users to pursue them participant the experiment

What can we expect?

1. Increase Revenue by 3% -5%

Improve App Usage can improve revenues

2. Understand User Behaviors

Understand user app usage behaviors and customize notifications

3. Application to other Apps

The results from this experiment could be applied to Facebook and other products

4. Improve Customer Retention

Find a best notification numbers to avoid churn

5. Low costs

Cost is just the loss of around 3% - 5% of usage time

6. No harm for stakeholders/participants

No harm to users in the experiment and the company's brand

Thank You!