Class 13 Case Study: Improve User Engagement for Instagram Using A/B/N Testing

Dr. Wei Miao

UCL School of Management

November 13, 2024

Case Background
●○○

Theoretical Motivations
○○○○○○○

A/B/N Testing for Instagram
○○○○○○○

Section 1

Case Background

Case Background
○●○

Theoretical Motivations
○○○○○○○

A/B/N Testing for Instagram
○○○○○○○

Business Objective

- Instagram aims to increase user engagement and activity through

- We can propose gamification strategies based on scientific theories

- Need to empirically test whether proposed gamification strategies are effective using A/B/N testings

Case Background
○○●

Theoretical Motivations
○○○○○○○

A/B/N Testing for Instagram
○○○○○○○

Situation Analysis

Conduct a situation analysis to understand the business environment of Instagram in UK:[1]

- What is Instagram's business model?

- How does Instagram make revenues?

- Who are Instagram's customers?

- What are the major competitors and their relative strengths and weaknesses compared with Instagram?

- Who are the collaborators of Instagram?

- PESTLE analysis: any particular legal and regulatory issues that Instagram needs to be aware of?

---

[1]All answers are on the website.

Case Background
OOO

Theoretical Motivations
●OOOOOO

A/B/N Testing for Instagram
OOOOOOO

Section 2

Theoretical Motivations

Theoretical Motivation for Business Ideas

- When proposing business ideas, we should base our proposals on scientific, well-established theories from different disciplines.

  - **Bottom-up approach**: start with theories and then generate business ideas

  - **Top-down approach**: start with business ideas and then find theories to support them

- Let's first see some examples of behavorial theories!

Case Background
○○○

Theoretical Motivations
○○●○○○○

A/B/N Testing for Instagram
○○○○○○○

Behavioral Theories

- Framing effect
- Endowment effect
- Left-digit effect
- Social comparison theory
- Prospect theory
- Many more...

Social Comparison Theory

- People evaluate their own opinions and abilities by comparing themselves to others

- Social comparison can be upward or downward

- Social comparison can motivate people to improve their performance; however, it can also lead to negative emotions

Prospect Theory

- Prospect theory posits that when people feel more pain from losing something than pleasure from gaining something.

- This theory can be used to explain why people are more likely to engage in activities that prevent loss than those that promote gain.
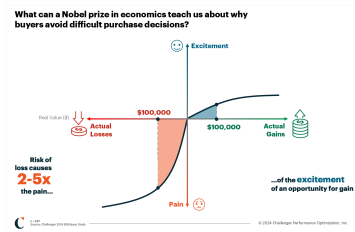
Business Proposal

- Implement gamification features on Instagram to increase user activity based on the theories of Social Comparison and Prospect Theory.
- Let's have a brainstorm discussion and come up with some ideas on how to implement gamification features on Instagram.

Potential Strategies

- **Endowment effect**: Points system and badge system for engagement (likes, comments, shares)

- **Social comparison theory**: Leaderboards showing top users; Social comparison through activity rankings

- **Prospect theory**: Time-limited rewards and achievements

Section 3

A/B/N Testing for Instagram

Step 1: Decide on the Unit of Randomization

- What would be the best unit of randomization?

Step 2: Mitigate Spillover and Crossover Effects

- What are the potential problems for spillover and crossover?

Step 3: Decide on Randomization Allocation Scheme

- How should we determine the randomization scheme?

Step 4: Collect Data

- What is the sample size we need?

- What data should we collect?

Step 5: Data analytics

- Randomization checks

- How to estimate the treatment effects?

After-Class

- (optional) Test and learn: How a culture of experimentation can help grow your business