

## 2. Community Recommendation Engine Experiment

**Objective:** Determine the impact of a community recommendation engine on movie rentals.

**H1:** Participation in a community recommendation engine leads to increased movie rentals compared to non-participating users.

Methodology:

We'll use a randomized controlled trial with two groups:

1. Control Group: Users continue using the platform without the community recommendation engine.
2. Treatment Group: Users gain access to the community features mentioned above.

Participant Selection:

We'll randomly select users for each group, ensuring similar demographics and past rental behavior.

Data Collection:

Rental Activity: Number and types of movies rented by each user.

Engagement Metrics: Time spent browsing, reviews/ratings submitted, and forum participation (treatment group only).

User Data: Age, gender, location, and past rental history.

Evaluation Metrics:

- 1) **Rental Frequency:** Average movie rentals per user.
- 2) **Engagement Rate:** Proportion of users actively using the community features.
- 3) **Retention Rate:** Percentage of users remaining on the platform after the experiment.