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Introduction

- Recommender systems aren't just neutral filters; they are economic tools designed to keep people on a platform as long as possible.
- Our research looks at "Preference Dynamics," which is how being shown the same kind of content again can shift what a user likes or believes.
- Algorithms often create "Exposure Games" where creators strategically post polarized or extreme content because that is what the system rewards.
- An 'Exposure Game' is when creators deliberately post extreme or polarizing content because the algorithm gives it more visibility, turning content creation into a strategic game where shock value beats quality.
- Since engagement is tied to profit, there is a constant tension between a platform's revenue goals and the actual well-being of the people using it.

Research Objective

We want to understand the economic relationship between a platform's goal of maximizing engagement and the way that affects a user's behavior. By analyzing how preference shifts and creator incentives work, we are investigating why these systems often end up rewarding polarized content over high-quality, moderate information.

Research Questions

- How does the constant cycle of personalized recommendations change a person's preferences and behavior over time?
- Do different revenue models, like advertising versus subscriptions, change whether an algorithm promotes extreme content?
- How do content creators "game" the algorithm to get more views, and what does that mean for the diversity of content we see online?



Methodology

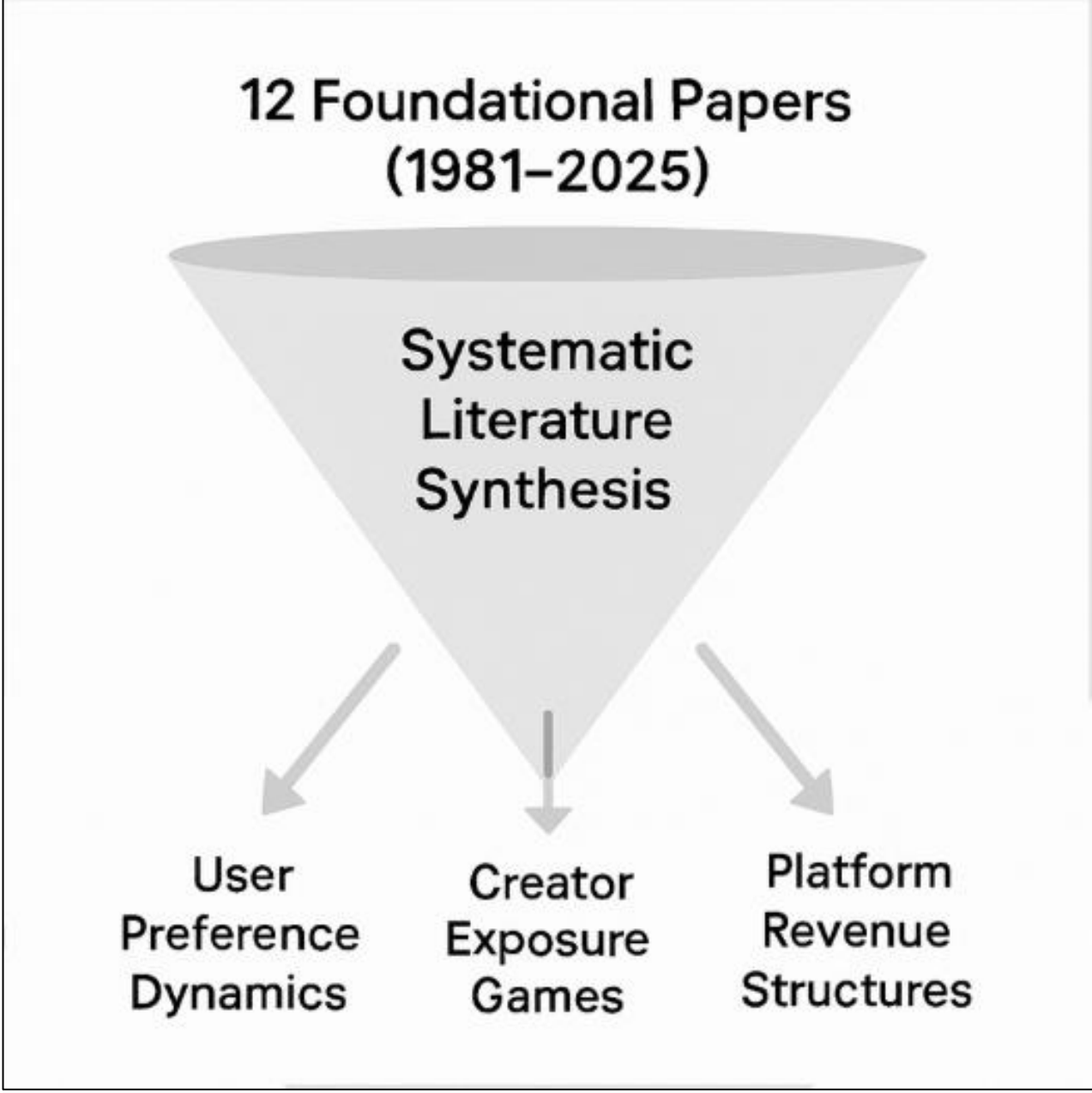


Fig 1. Systematic Literature Synthesis Funnel. This funnel shows how the 12 foundational papers we reviewed, ranging from 1981 to 2025, narrowed down into the three main themes that drive our research: User Preference Dynamics, Creator Exposure Games, and Platform Revenue Structures.

Data & Models

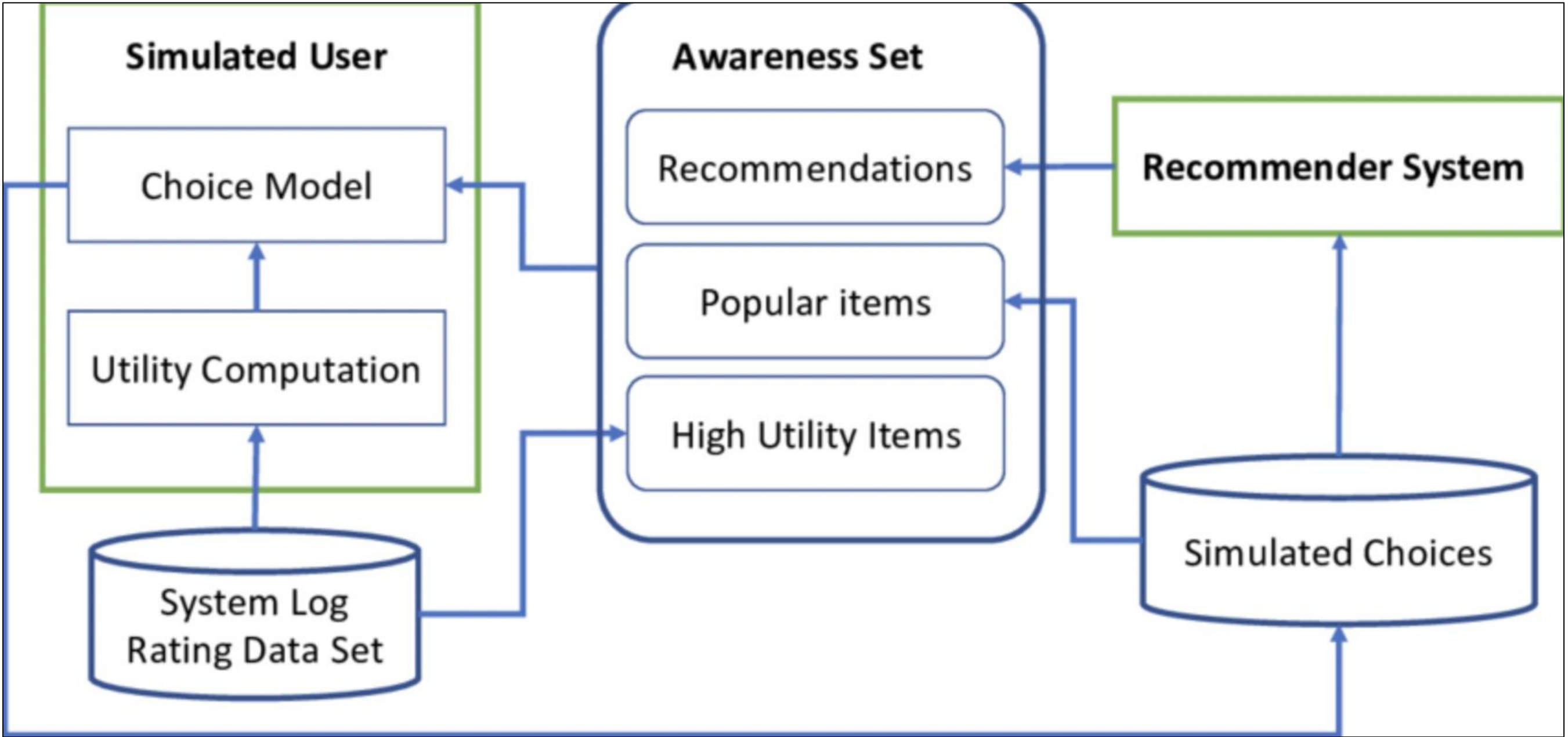


Fig 2. User Preference Feedback Loop. This model shows how a recommender system limits a user's "Awareness Set." By controlling what a user sees, the system influences their "Choice Model," creating a loop where the platform can shift user preferences over time to maximize engagement.

Results



Fig 3. Creators strategically choose polarized content because the algorithm rewards that 'Exposure Game' with higher visibility.

Discussion & Implications

What this really means is that the issue responsible for the state of social media is the economic incentive to keep users engaged at any cost. If platforms continue to prioritize short-term clicks over everything else, then "fairness" will always be secondary to revenue.

Our results directly show how creators game the algorithm for visibility, but questions about how preferences shift over time and how revenue models affect content moderation weren't fully answerable through a literature synthesis alone - that's what our future work is for. To fix this, we need to design models that value content diversity and long-term user health instead of just maximizing time spent on the app.

Future Work

- We want to test these economic theories against real-world data from sites like X or YouTube to see how often these "Exposure Games" happen in the wild.
- New "signals" can be developed for algorithms that reward content for being accurate and diverse rather than just being viral or attention-grabbing.
- We want to investigate how different revenue models, like moving away from ads toward subscriptions, could force platforms to prioritize safety over engagement.

References

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