

INTELLIGENT MOVIE RECOMMENDATION SYSTEM

Leveraging Data Science to
Drive Engagement and Revenue
Growth

The Challenge We're Solving

Users today face overwhelming choices when selecting movies.

This project aims to solve that problem by building a recommendation system that helps users quickly discover content they'll love.

Our solution improves both the user experience and business outcomes.

Why This Matters to Your Business

Though our recommendation system, We increase:



User Engagement

Keeps users engaged longer with relevant content suggestions

Customer Retention

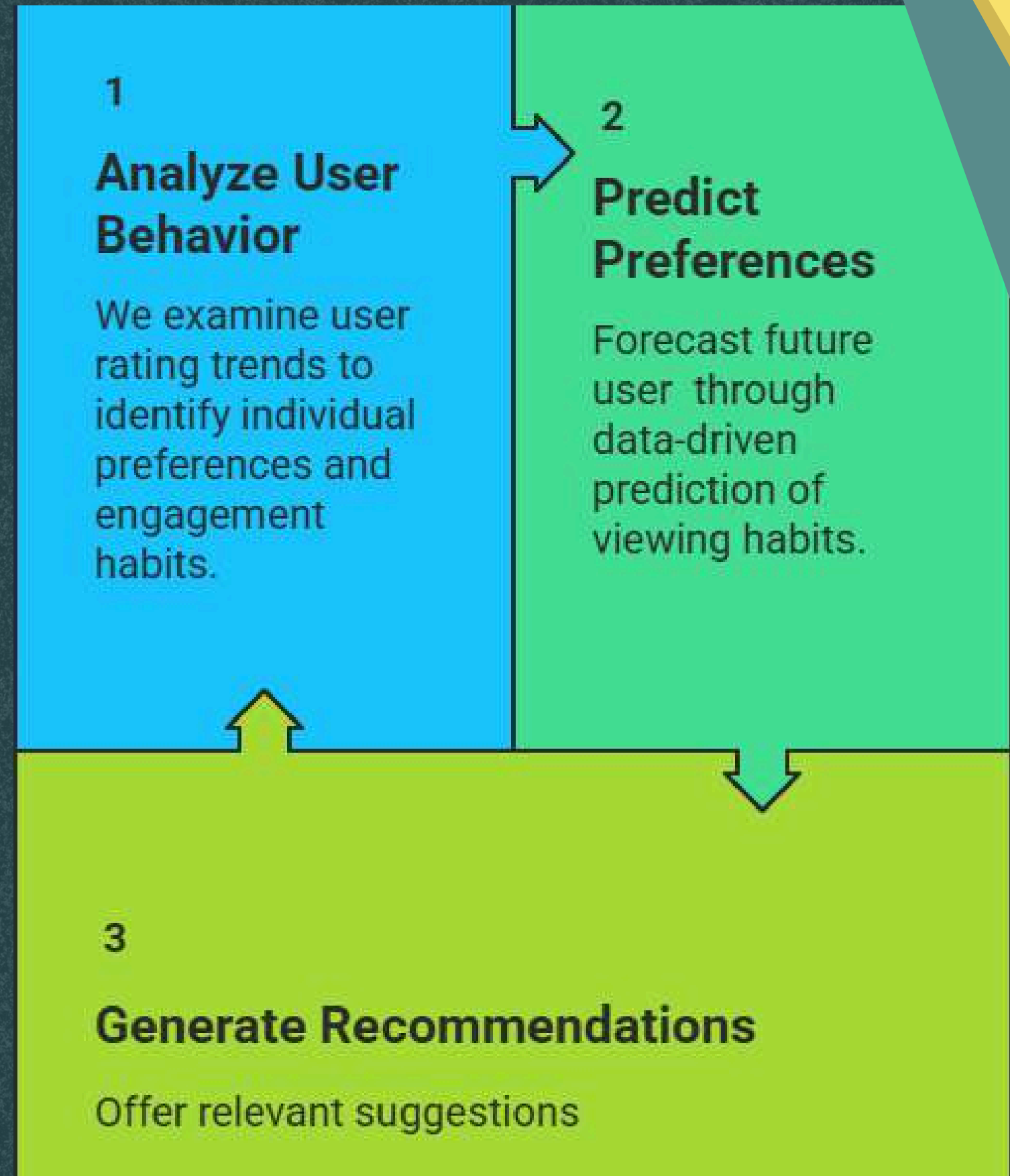
Increases subscription renewals by enhancing user satisfaction.

Content Discovery

Helping users find overlooked titles boosts engagement and strengthens the platform's content strategy.

Our Approach

We built a recommender system using real user data and collaborative filtering. The system delivers the top 5 movie suggestions tailored to each user's preferences.



Dataset Summary

610

**Active users
analyzed**

9,700+

**Movies in
Catalog**

3.5

**The average
user rating**

- **Drama leads the way:** 42,000+ entries show strong user preference
- **Quality content scores higher:** Crime and Drama average 3.5+ stars
- **User behavior patterns:** Most ratings fall between 3.0-4.0, indicating positive engagement

Data Preparation

We cleaned and merged multiple data files to create a unified, reliable dataset laying the groundwork for meaningful analysis and accurate movie recommendations.

Data Integration

Datasets combined into a single usable view.

Quality Assurance

Missing values and duplicates removed for accuracy

Matrix Construction

User-movie interaction matrix built for collaborative filtering.

Key Insights from the Data

- **Positive User Sentiment**

Most ratings cluster between 3.0–4.0, showing strong engagement and general satisfaction.

- **Genre Preferences**

Drama, Comedy, and Action dominate user choices, highlighting popular themes.

- **Quality Content Wins**

Crime and Drama genres receive the highest average ratings, suggesting a preference for story-driven films.

- **Predictable Patterns**

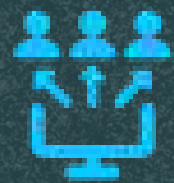
User behavior shows clear trends—ideal for building accurate and personalized recommendations

Modeling Approach

We used item-based collaborative filtering to recommend movies similar to those a user has rated highly.

The model learns from user rating patterns, allowing accurate suggestions, even for unseen films.

Business Value



Increased Engagement

Users spend more time viewing content



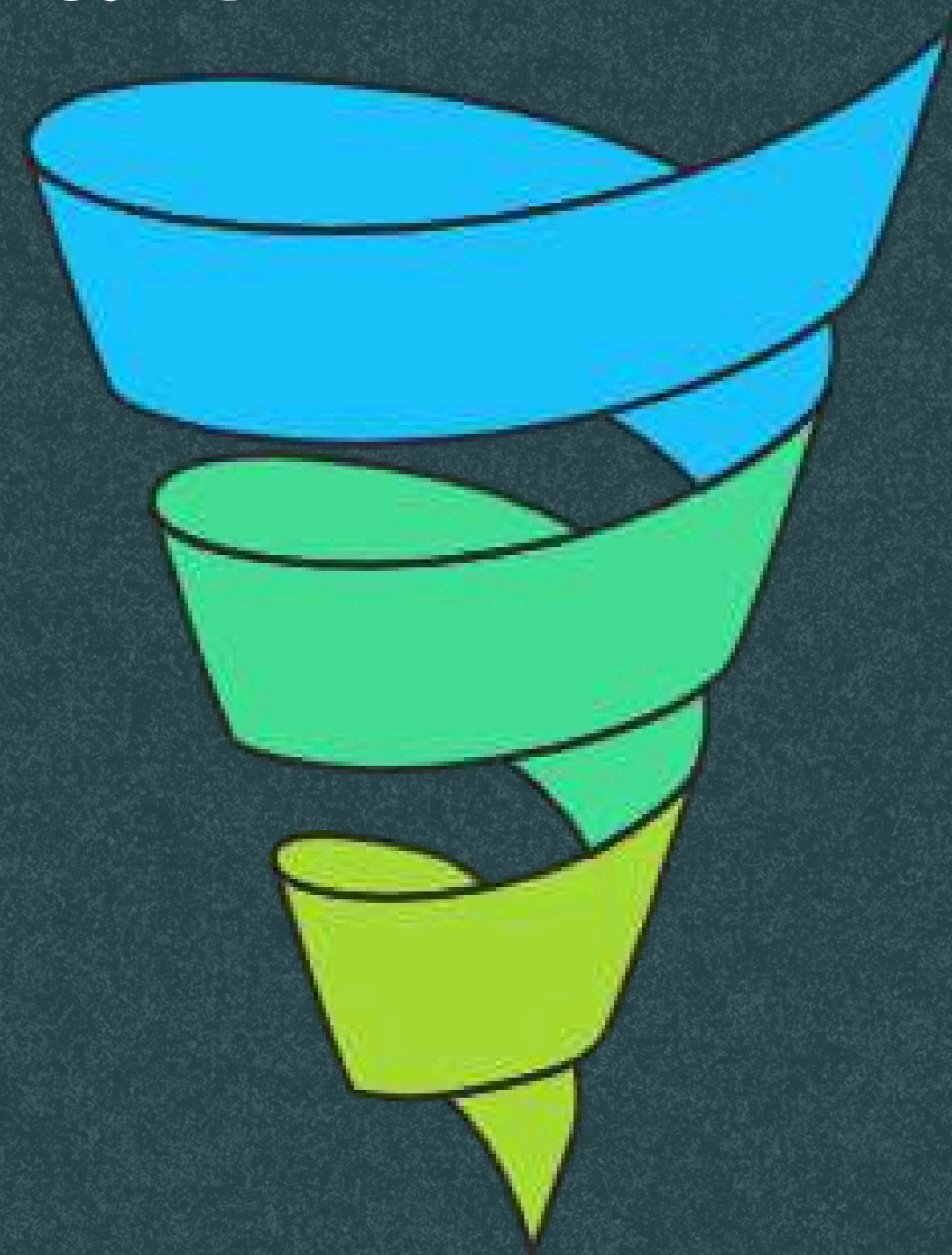
Improved Catalog Efficiency

Under-watched titles gain visibility



Enhanced Retention

Users are more likely to stay subscribed because of personalized experiences.



CONCLUSION & RECOMMENDATION

We recommend investing in this system to drive scalable, data-backed growth and long-term user engagement.



Session