

MOVIE RECOMMENDATION SYSTEM









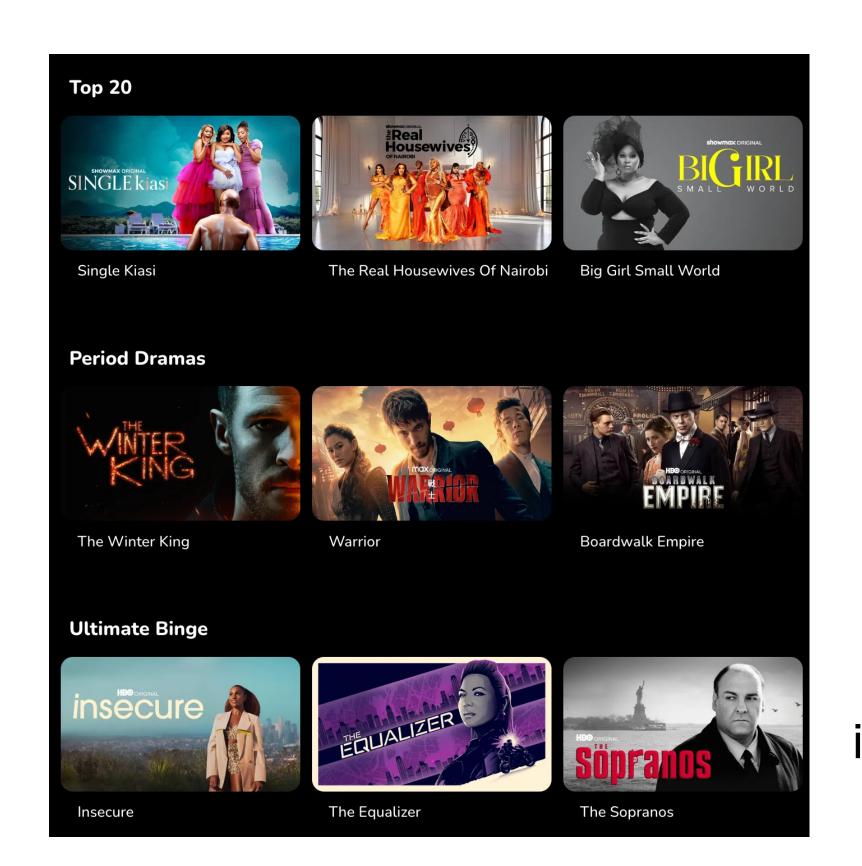
OVERVIEW

RMX consultancy created a user based and item based collaborative filtering methods on movie lens dataset to create a movie recommendation system for Showmax to:

- Accurately recommend top 5 movies
- Provide insights and recommendations to Showmax



BUSINESS UNDERSTANDING



Personalized movie recommendations are important for Showmax to enhance user satisfaction and retention. Netflix sets the industry standard by offering top 10 movies or series in a user's country and personalized recommendations based on viewing history and ratings.

By using collaborative filtering, Showmax can develop targeted suggestions to improve user retention, helping them to be more competitive.



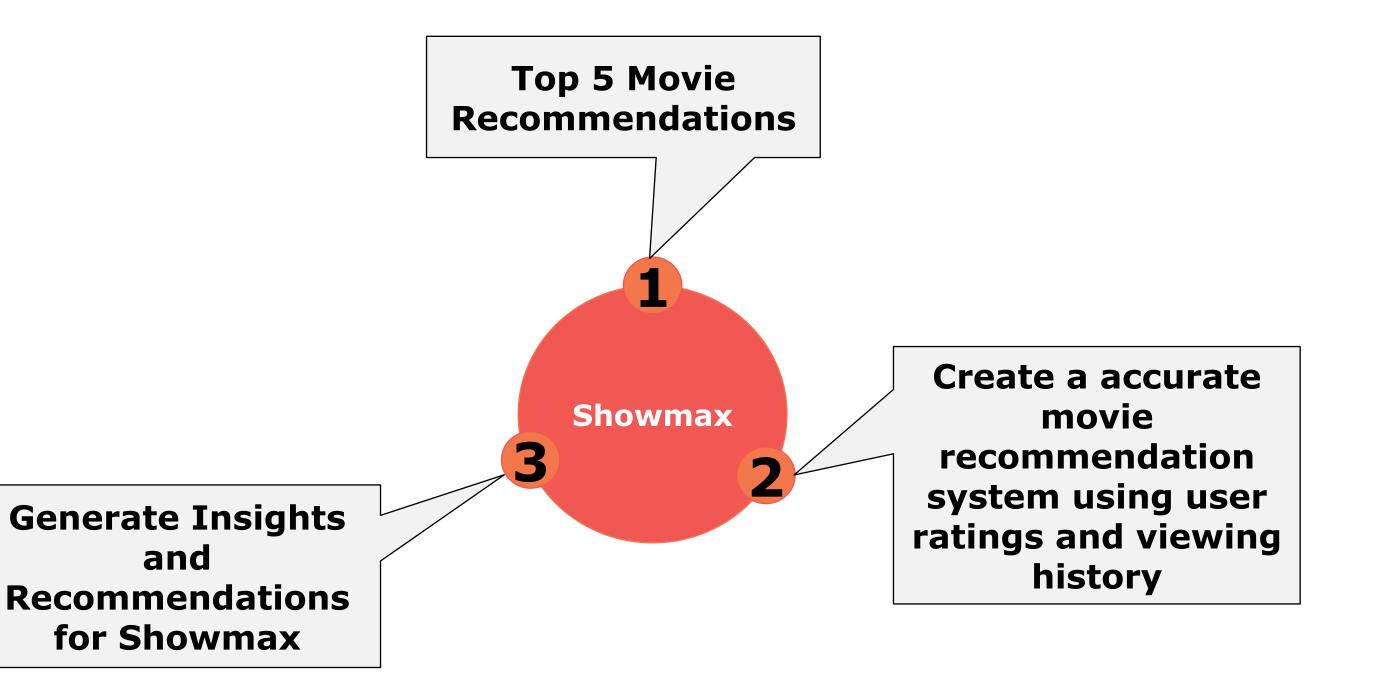
PROBLEM STATEMENT

RMX Consultancy X Showmax

Showmax has tasked RMX Consultancy to enhance its competitive edge by implementing a personalized movie recommendation system. The goal is to build a model that can recommend the top 5 movies to users based on their ratings and viewing history, leveraging collaborative filtering techniques to deliver a superior viewing experience.



OBJECTIVES





DATA

Ratings 100,836

Tags 3,683

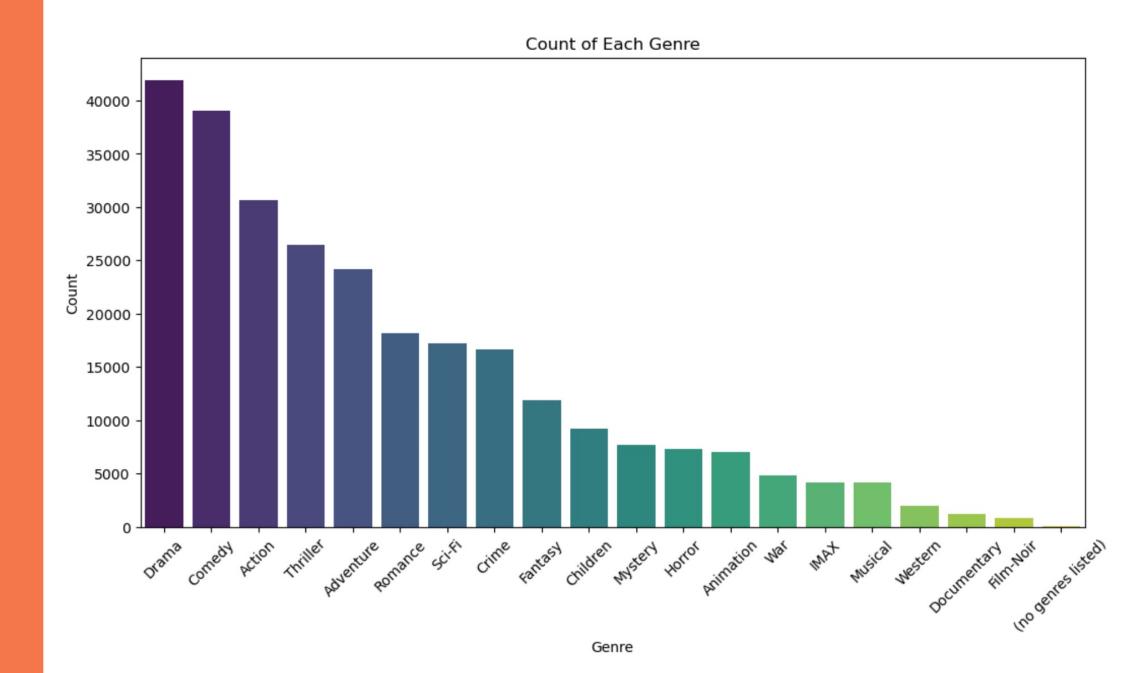
Movies 9,742

Users 610



Movie Genres Count

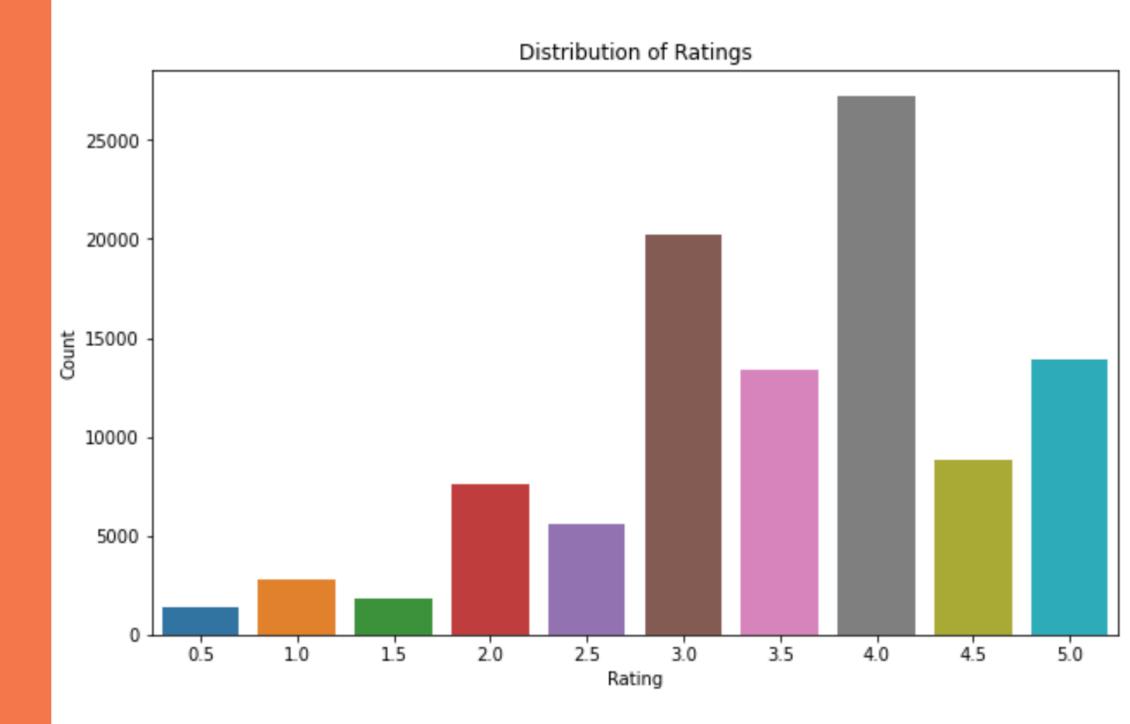
Drama was the most common genre with a count of 40,000+ while Film noir being the least common with a count of less than 1,000





Majority of the movies had a rating of between 3.5 and 4.0





Tags Frequency

For tags used, Netflix, queue, funny, quirky, atmospheric, surreal and superhero are the most common tags used by the users



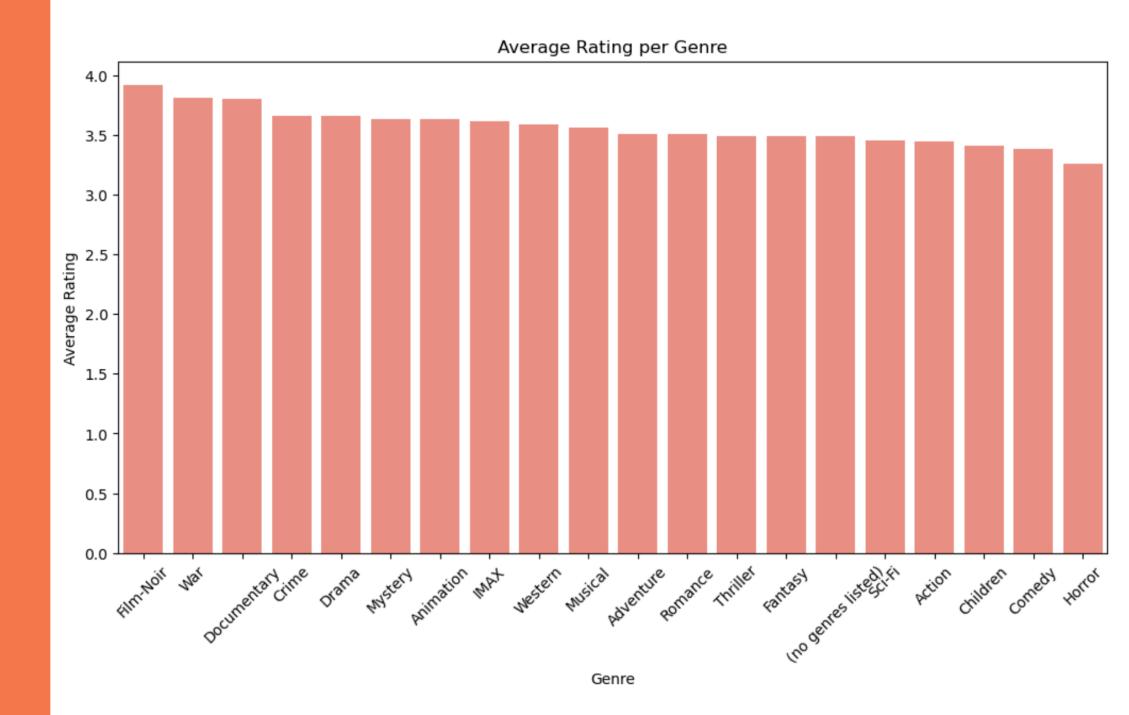
Word Cloud of Tags (Excluding "NoTag" Tag)





All the genres had an average rating of more than 3.0. Only Horror had an average rating of less than 3.5

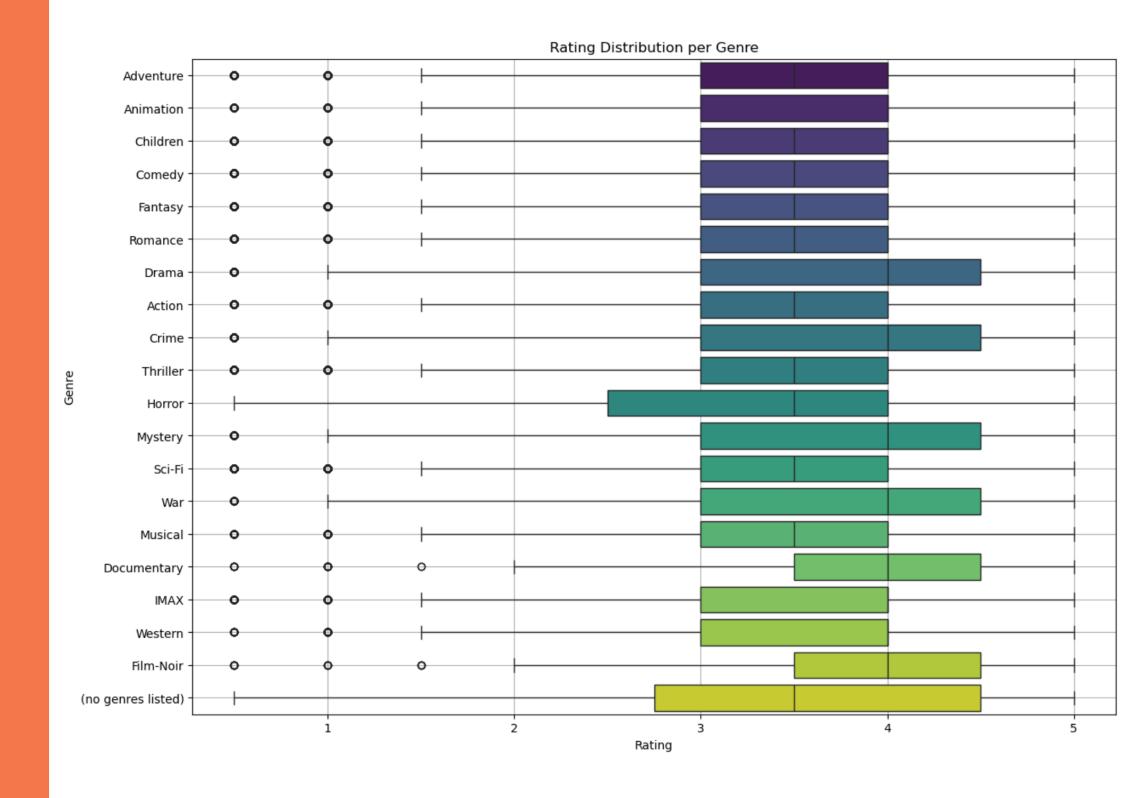






Most of the genres have a rating of between 3.0 and 4.0

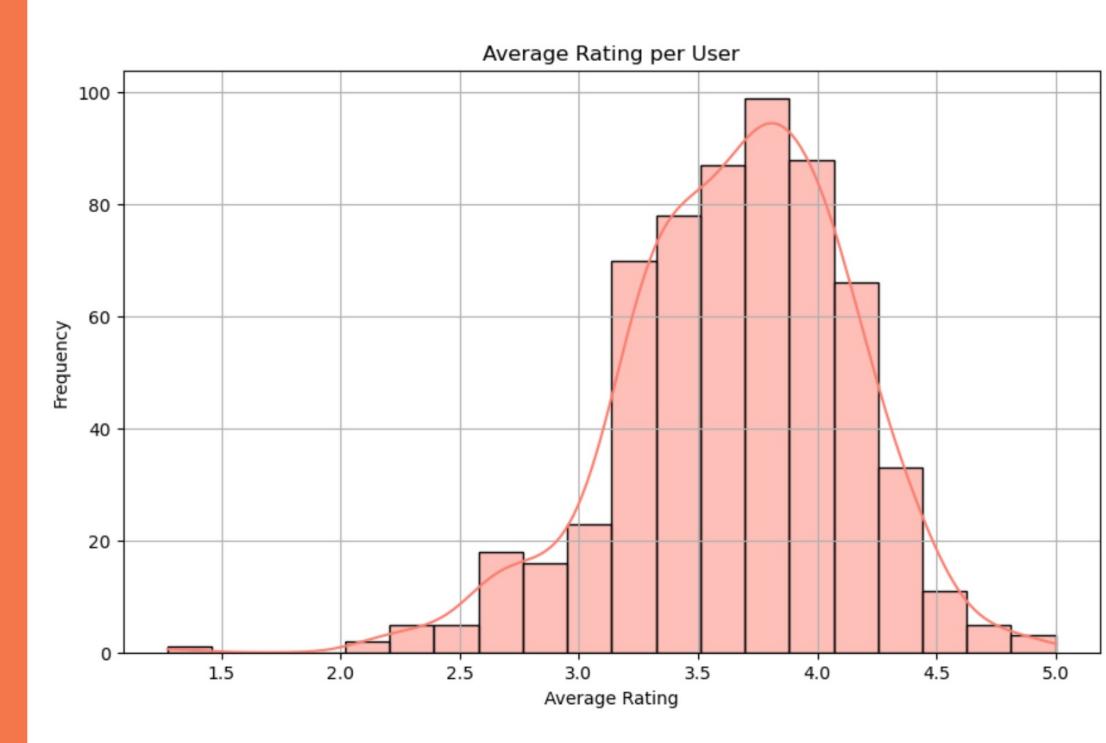






Most users gave the movies ratings of between 3.5 and 4.0

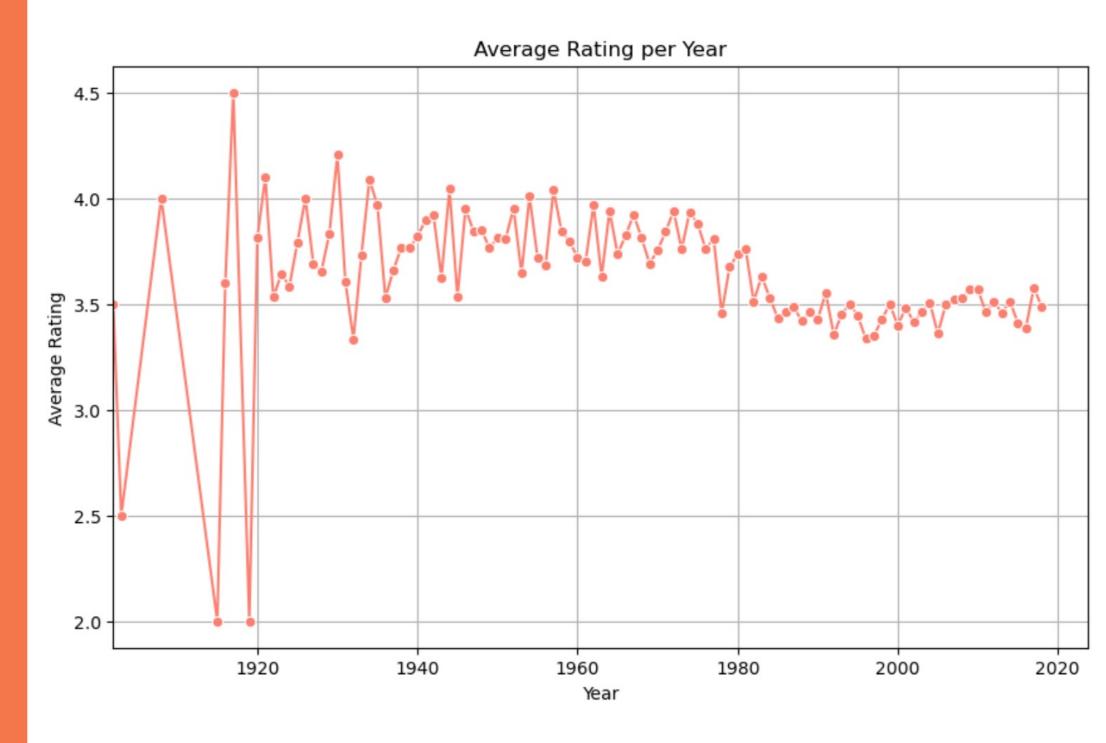






Movies produced after 1980 seems to have generally lower ratings compared to movies produced before 1980

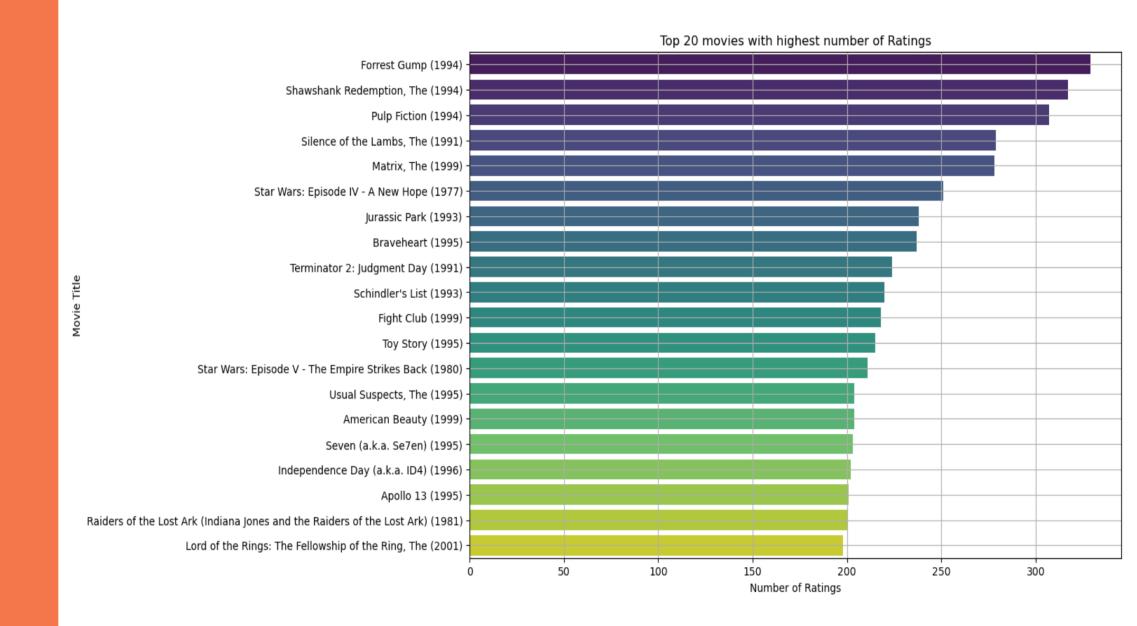




Top 20 movies with the highest number of ratings

Movies with the highest number of ratings, were released in the 90s apart from Lord of the Rings: The Fellowship of the Ring (2001)

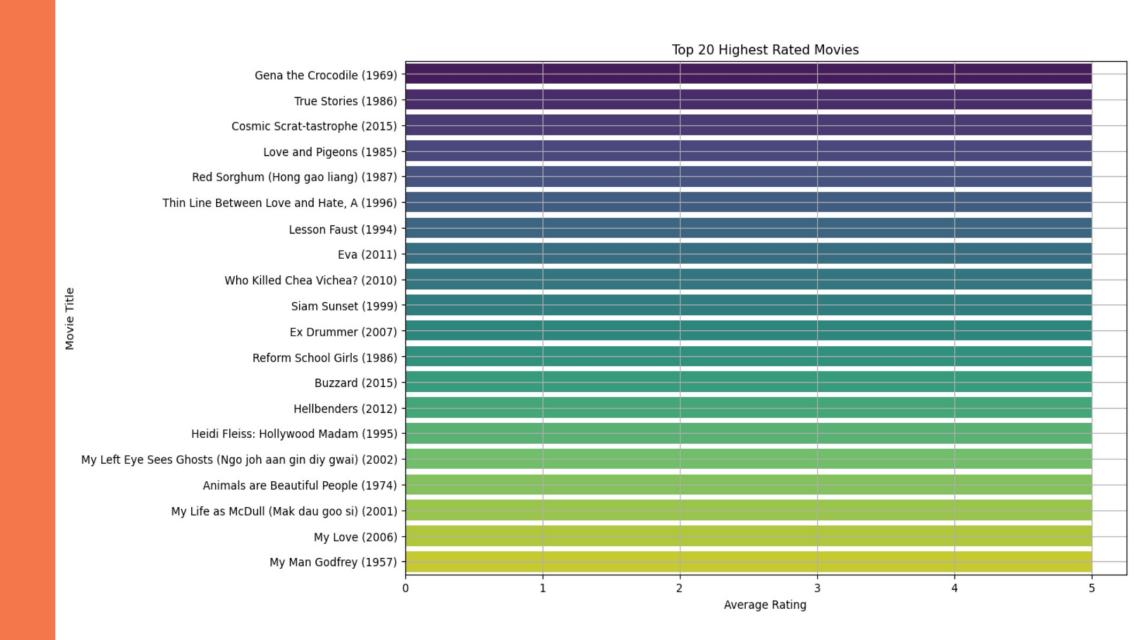




Top 20 highest rated movies

All top 20 highest rated movies had a rating of 5.0

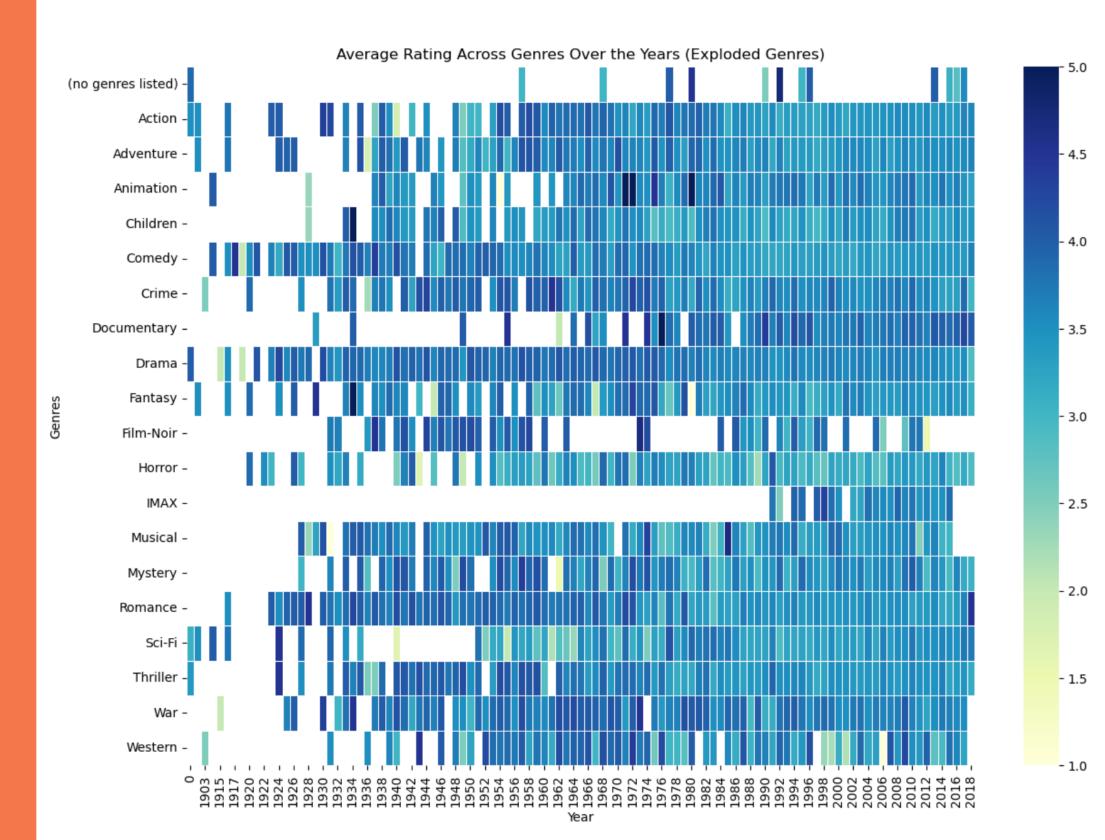




Average Rating Across Genres Over the Years

Drama, comedy and musical received higher average ratings in early to mid-20th century. Animation and Fantasy have become popular in recent years. Genres like Documentary, Film-Noir have maintained consistently high ratings over time.









Baseline Model: KNN Basic

RMSE: 0.85

 On average, the model's predictions for user ratings are approximately 0.8 point off (on a scale of 0.5-5.0)

Other Models: KNN with Means and SVD

• **SVD RMSE**: 0.85

Tuned SVD RSME: 0.85

KNNWithMeans: 0.67

Best Model: KNNBaseline

• Before Tuning: RMSE = 0.65

Tuned: RMSE RMSE: 0.61

The KNNBaseline model successfully recommended top 5 movies for users.

The model has high accuracy of 85%, suggesting a best performing model.

Focus on showing common genres such as Drama, comedy and Action. Maybe offload less common genres on the platform such as Documentary, Film-Noir

RECOMMENDATIONS

Collect More Data on why the user rated the movie high or low. This will help to enhance user experience

Diversify the recommendation: Provides a mix of popular and less well-known movies to keep users engaged.

Improve Customer Experience: Showmax app improvement to improve their experience



Personalized Marketing Campaigns:

Develop personalized marketing campaigns based on the model insights. Personalized recommendations can increase engagement and reduce churn rates.



Curated Content Lists. Create curated content lists based on popular genres, themes, or user demographics. For example, "Top Movies for Action Lovers" or "Top 10 rated movies in Kenya."



Partnerships and Collaborations:

Collaborate with content creators, filmmakers, and influencers to promote exclusive content on Showmax.



Content Accessibility and Localization:

Enhance content accessibility by providing subtitles, dubbing options, and descriptive audio for a broader audience.

NEXT STEPS





Thank youx

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