

Decoding Netflix

*Data-Driven Insights
into Content, Trends
& Strategy*

Presented by
Team 2



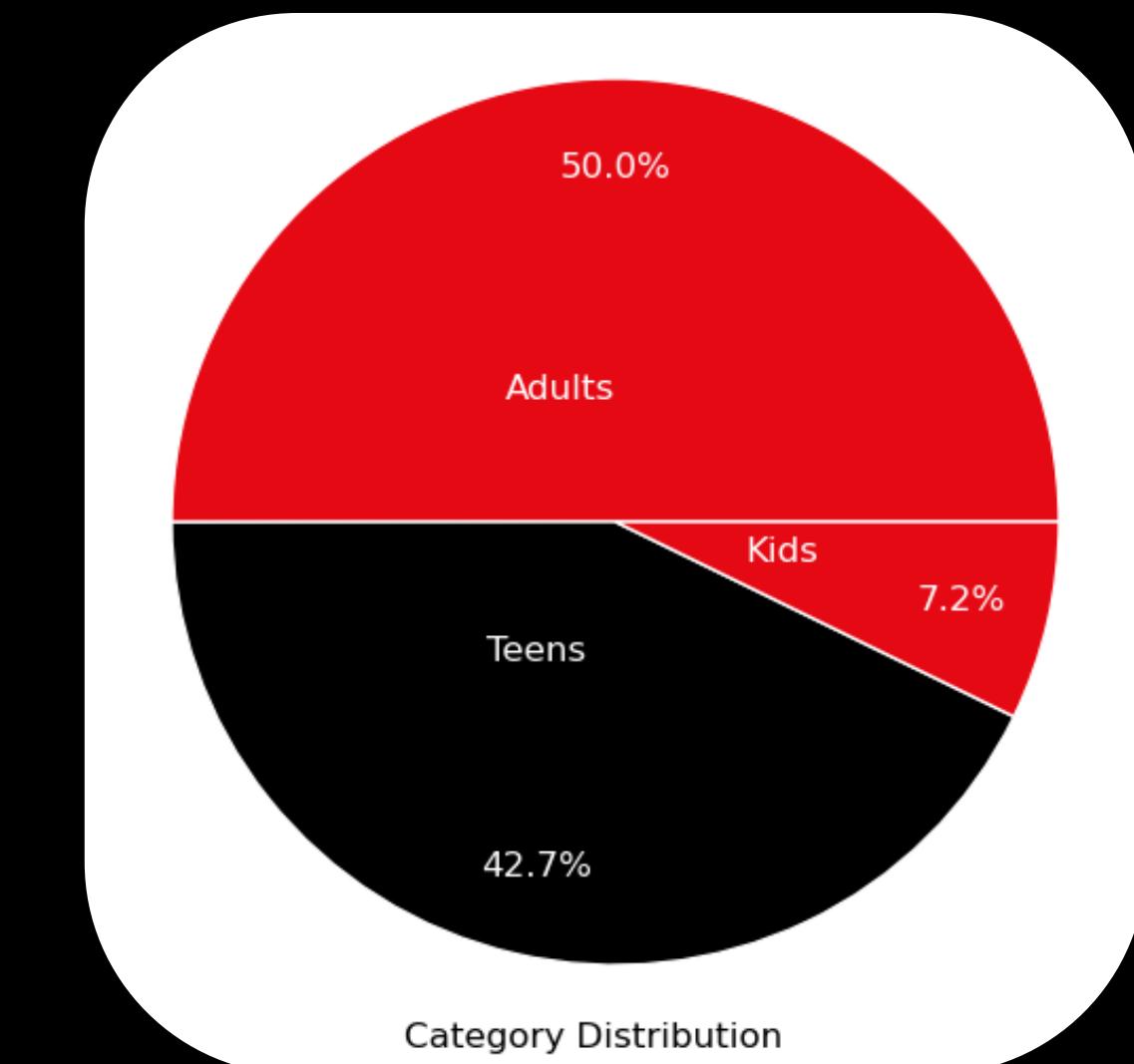
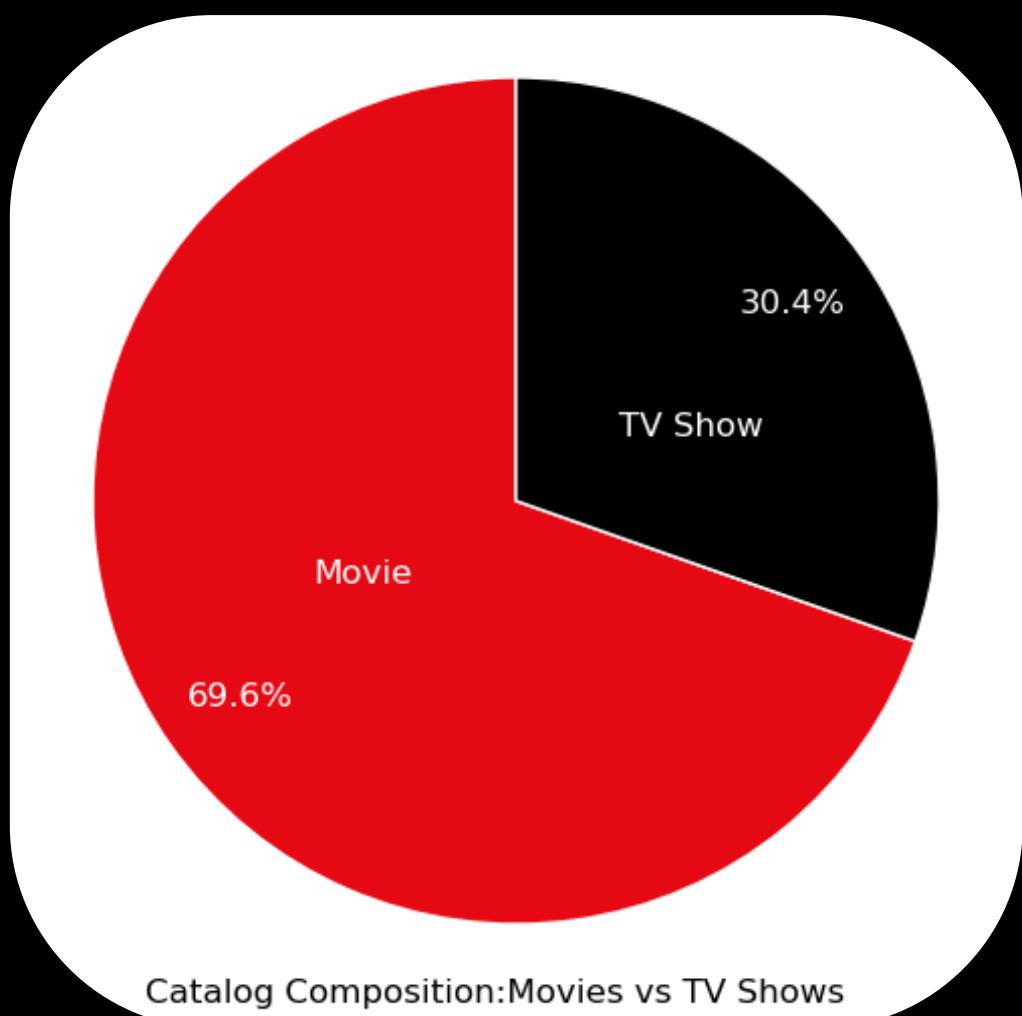
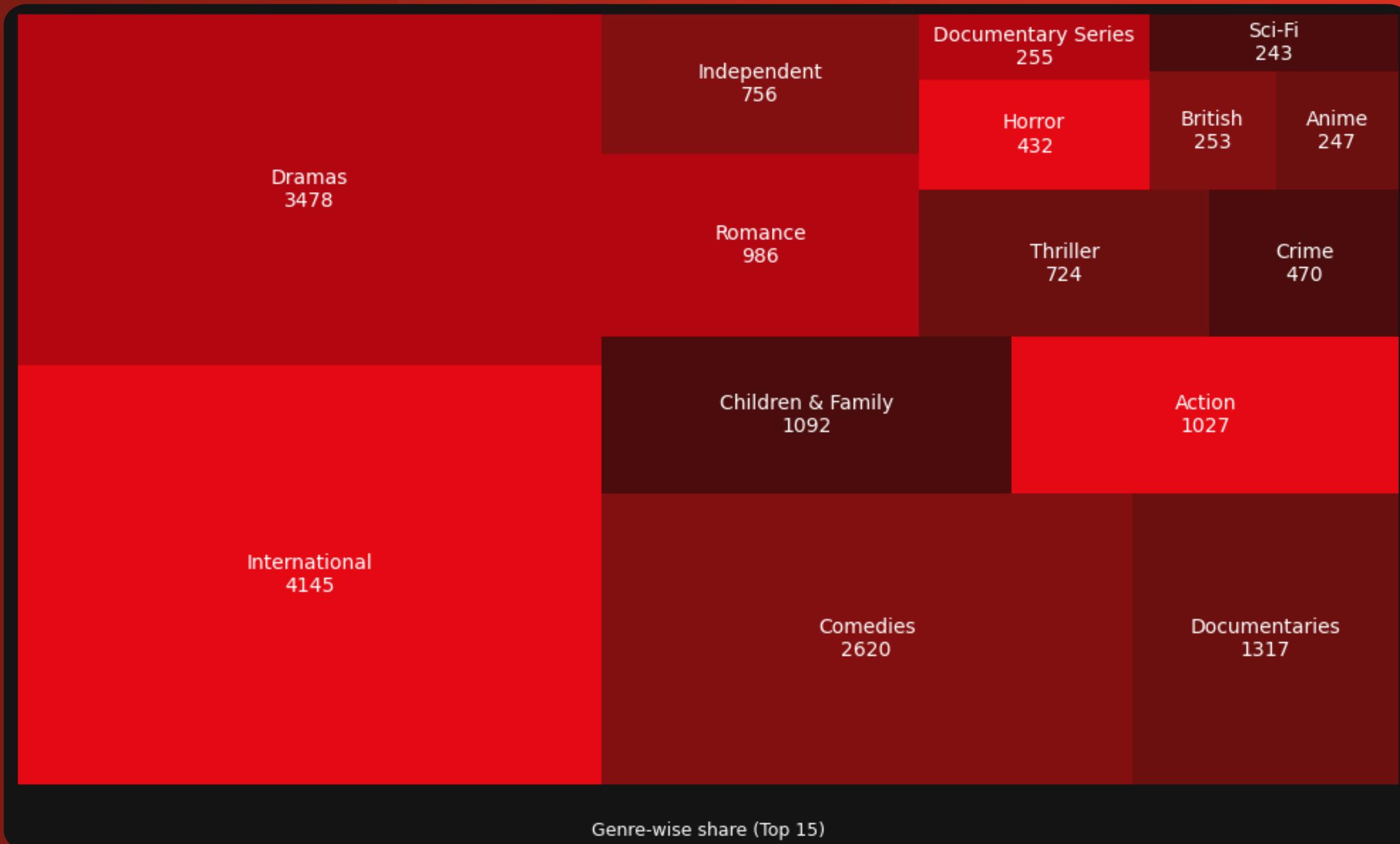
Netflix, the world's leading streaming platform, offers thousands of titles across diverse genres and regions, catering to over 230 million subscribers. This dashboard delivers an exploratory analysis of Netflix's content library, turning raw data into visual insights that reveal trends in genre diversity, regional presence, creator networks, and viewer ratings. The goal is to generate strategic intelligence that guides content acquisition, curation, and audience engagement through business analytics and visual storytelling rather than predictive modelling.

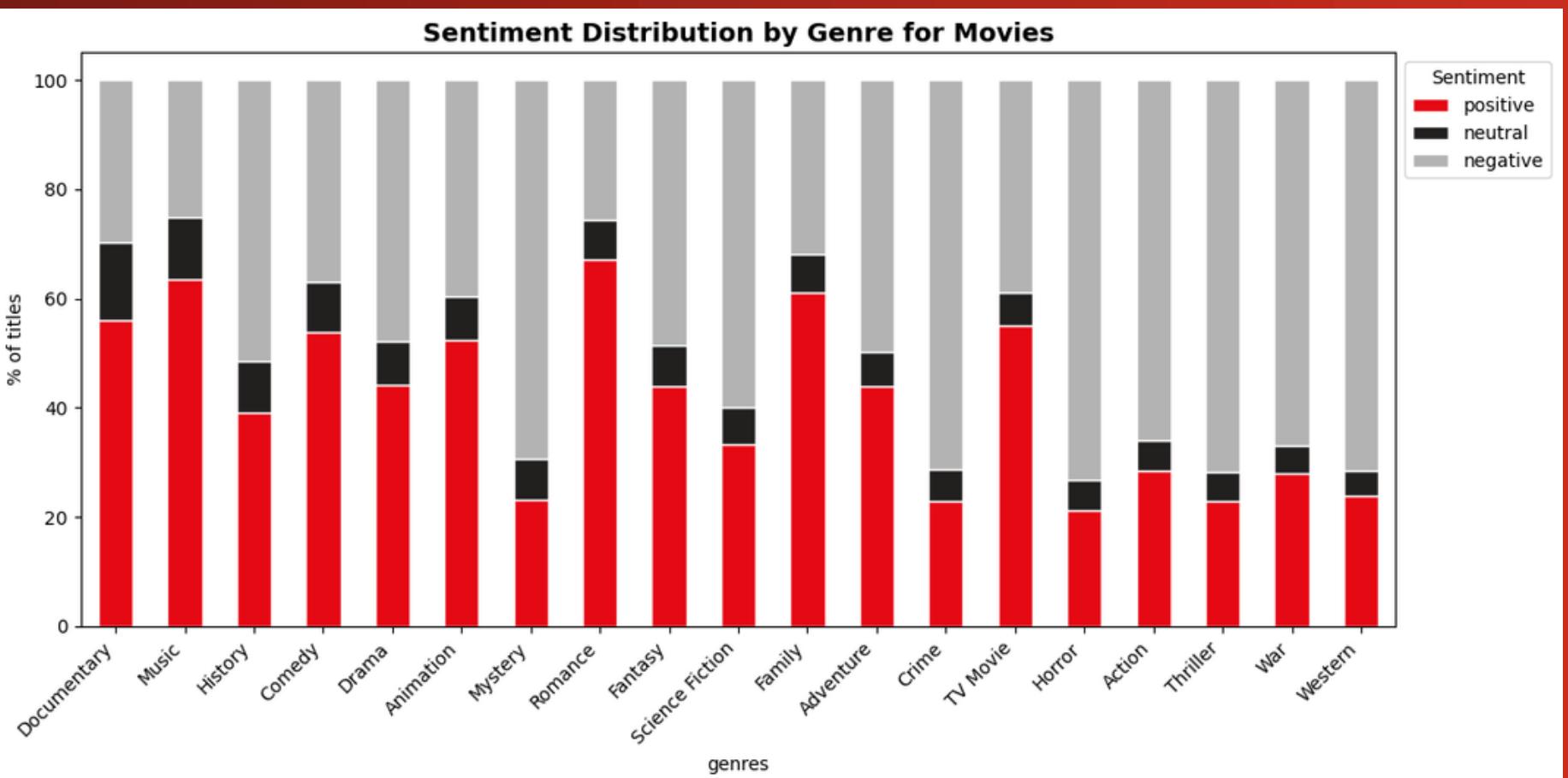


Content Landscape

Overview of our diverse content catalog's composition.

Catalog Content Overview

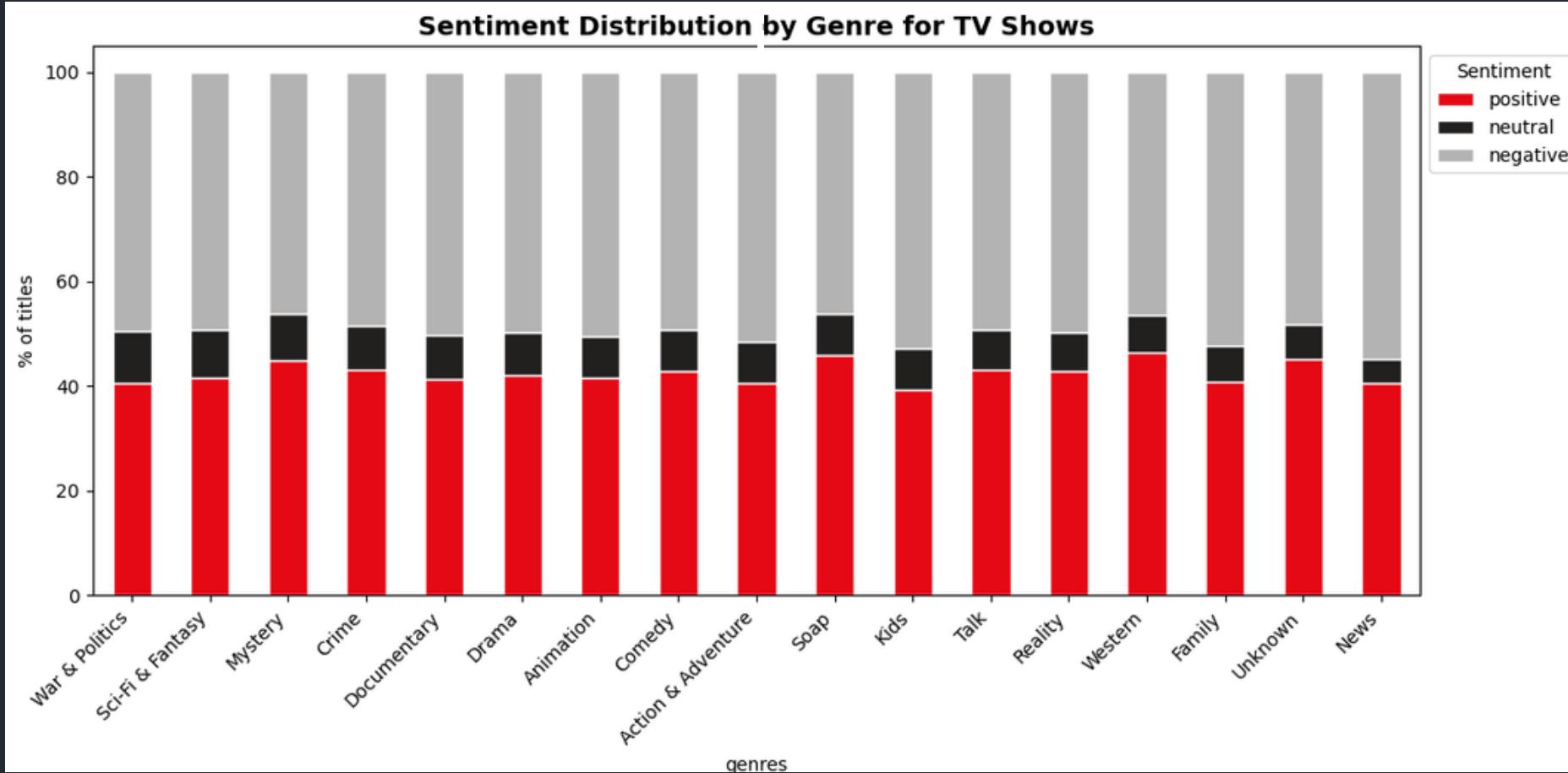




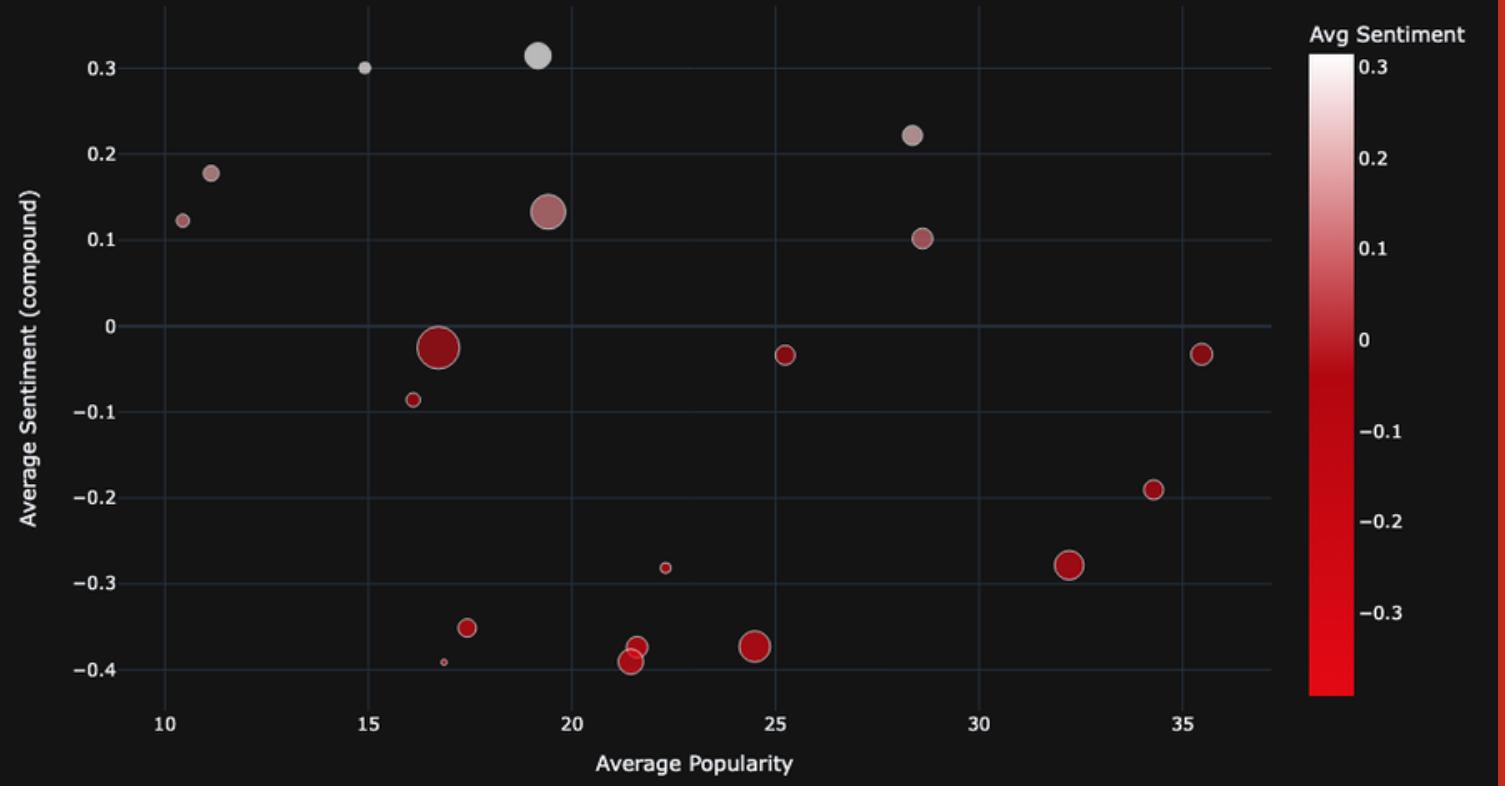
- **Few neutrals:** micro-blurbs usually tilt positive or negative.
- Read “negative” as threat/conflict language, not user dislike.

Genres speak in emotions, not reviews:-

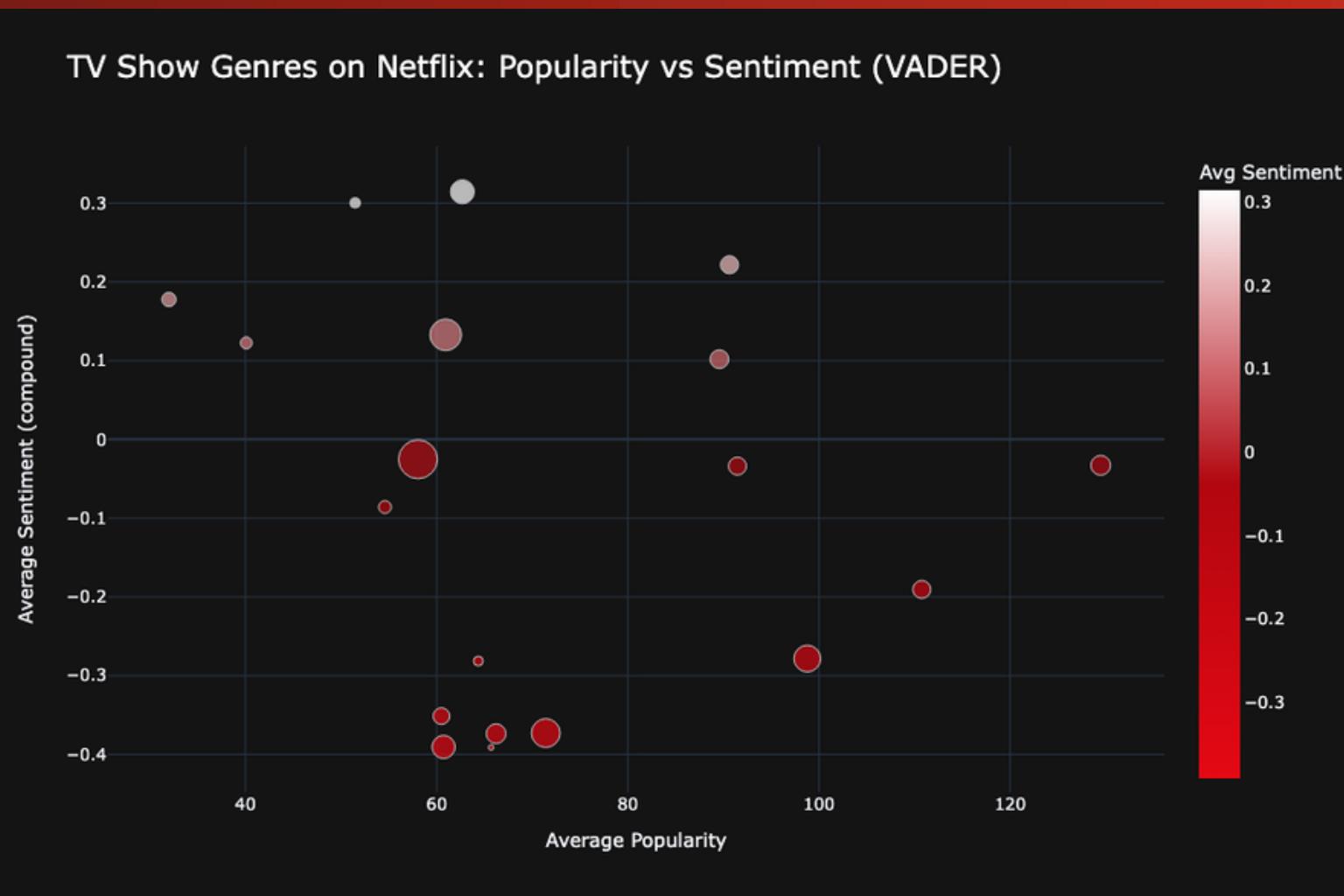
- Conflict words drive negative scores in **War/Western/Action/Thriller**.
- Supportive/emotional words lift **Romance/Music** (and some Documentaries).



Movie Genres on Netflix: Popularity vs Sentiment (VADER)



TV Show Genres on Netflix: Popularity vs Sentiment (VADER)



- **Popularity ≠ positivity.** Some of the most popular genres sit around 25–35 avg popularity but have neutral to clearly negative average sentiment (bottom-right area). That means darker/conflict-heavy genres still perform well → sentiment is not the primary driver of demand.

- **Positive but mid-popular genres exist.** A few bubbles in the upper-middle (higher sentiment, mid popularity) suggest there are genres whose descriptions sound “nice” but don’t get as much traction — these are good candidates for better surfacing/promotions.

- **High-sentiment + small bubble = under-supplied.** Small bubbles high on the y-axis (high avg_sent, low title count) are “pleasantly written but small” genres → catalogue expansion could lift them.

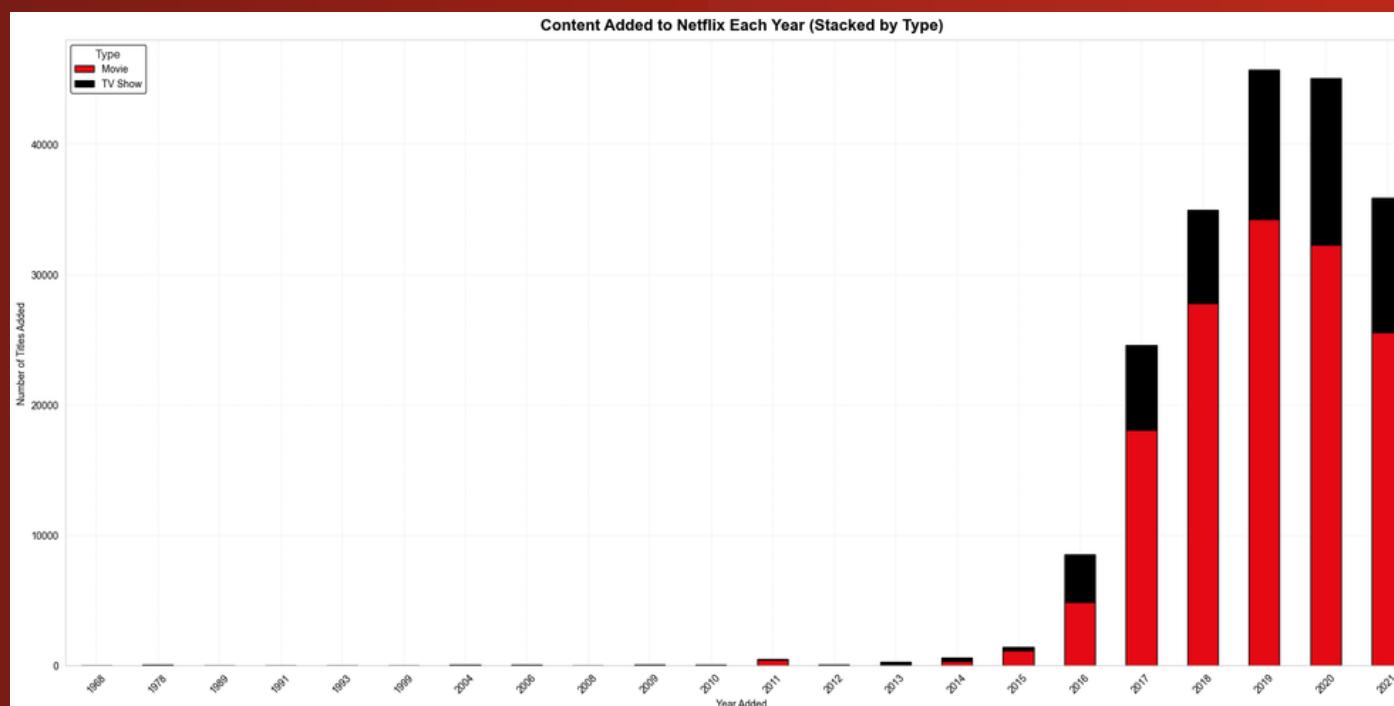
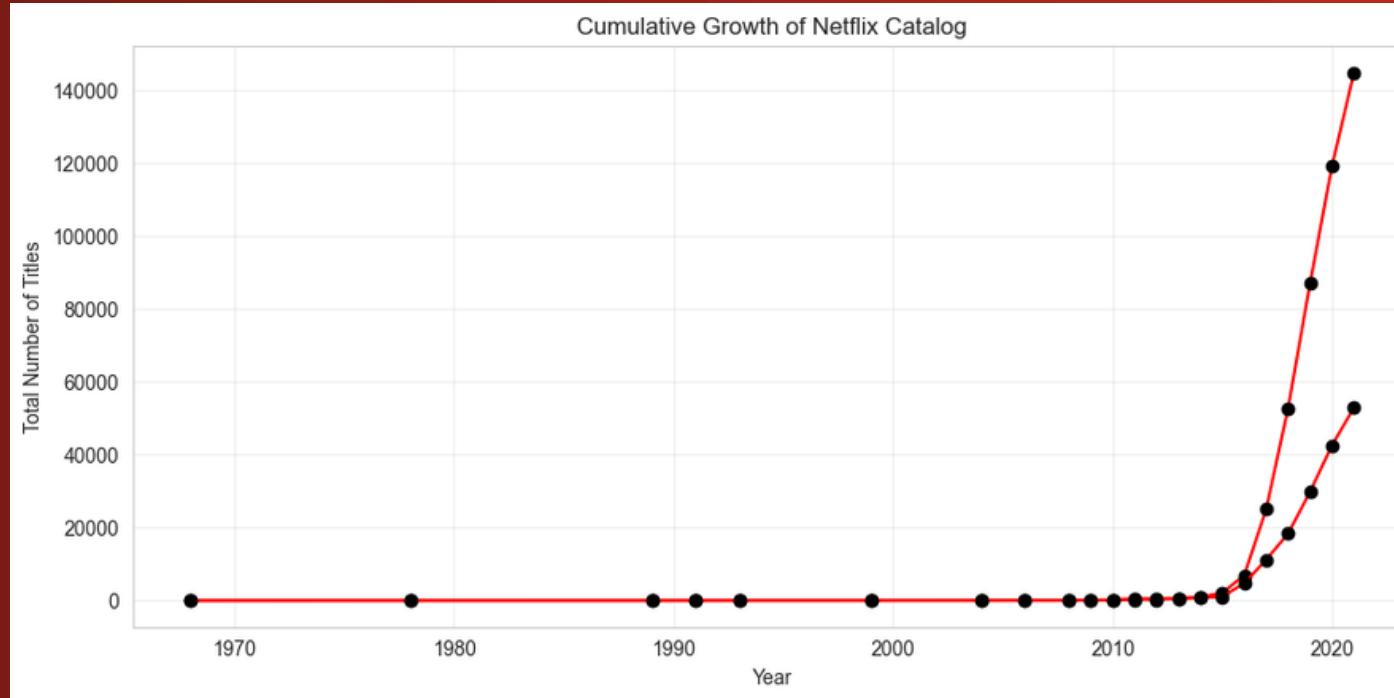
- **Overall: genre/content type explains popularity better than description tone;** use sentiment mainly for mood tagging / experience, not ranking.



Temporal Trends

Overview of Netflix's diverse content catalog's temporal evolution

Content Library is Experiencing Exponential Growth



1. Aggressive Library Expansion

Our content catalog has entered a period of hyper-growth, with a significant and accelerating expansion over the last 5-7 years.

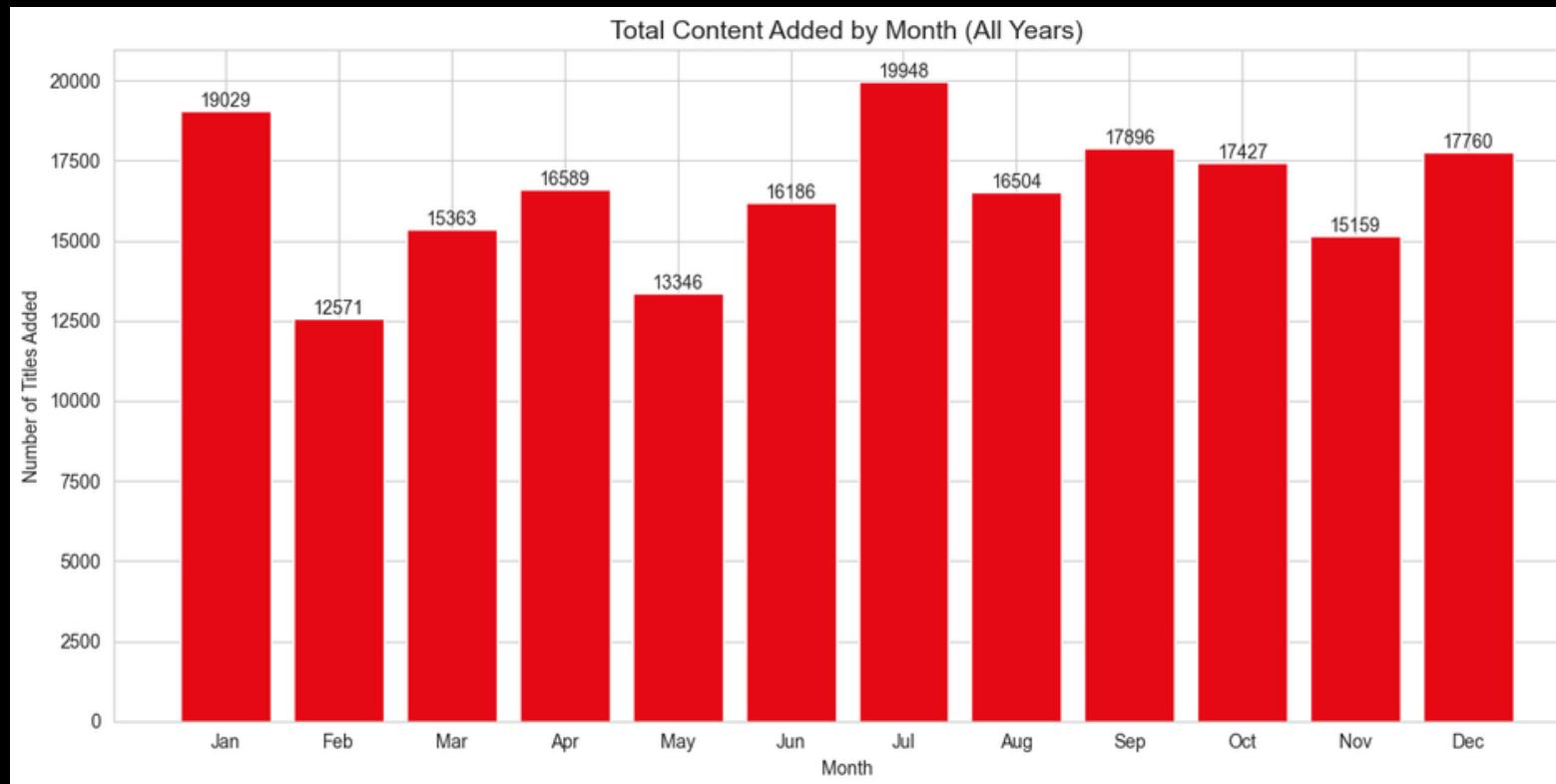
2. Investment at Scale

This growth reflects a deliberate and sustained investment strategy to dominate the content landscape and provide unparalleled value to our members.

3. Sustained Market Momentum

This pace is designed to widen our competitive advantage and solidify our market leadership position for the foreseeable future.

Monthly Seasonality



Insight 1: Peak & Strike

Major content waves in Oct–Jan and July target holidays and summer lulls — maximizing engagement and market capture.

Insight 2: Strategic Cooldown

Feb–May slowdown is intentional — reduces fatigue and sustains buzz from major releases.

Weekly Seasonality

Insight 1: The "Friday Refresh"

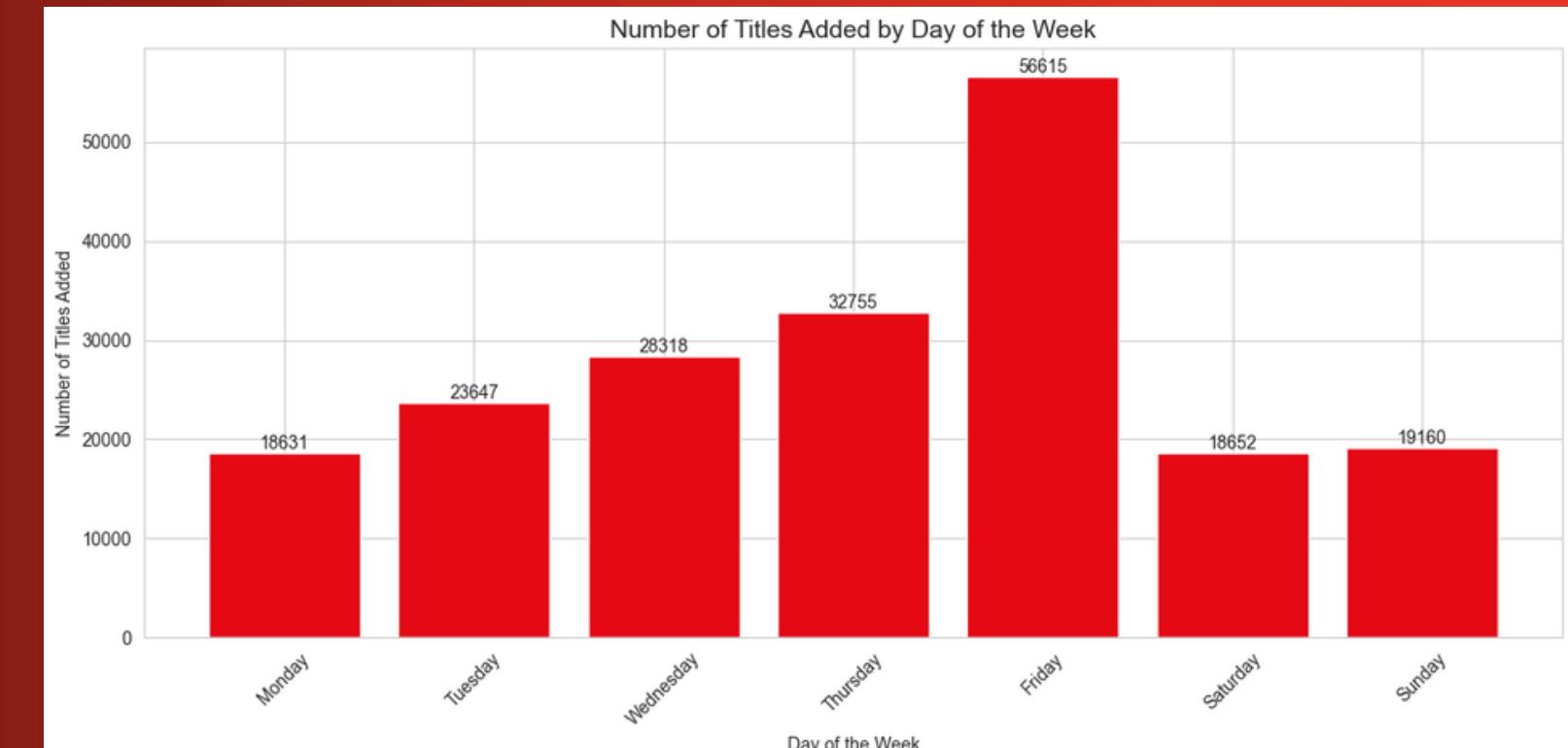
The data shows a clear and consistent peak in content additions every Friday. This is by design.

Insight 2: Driving Weekend Discovery

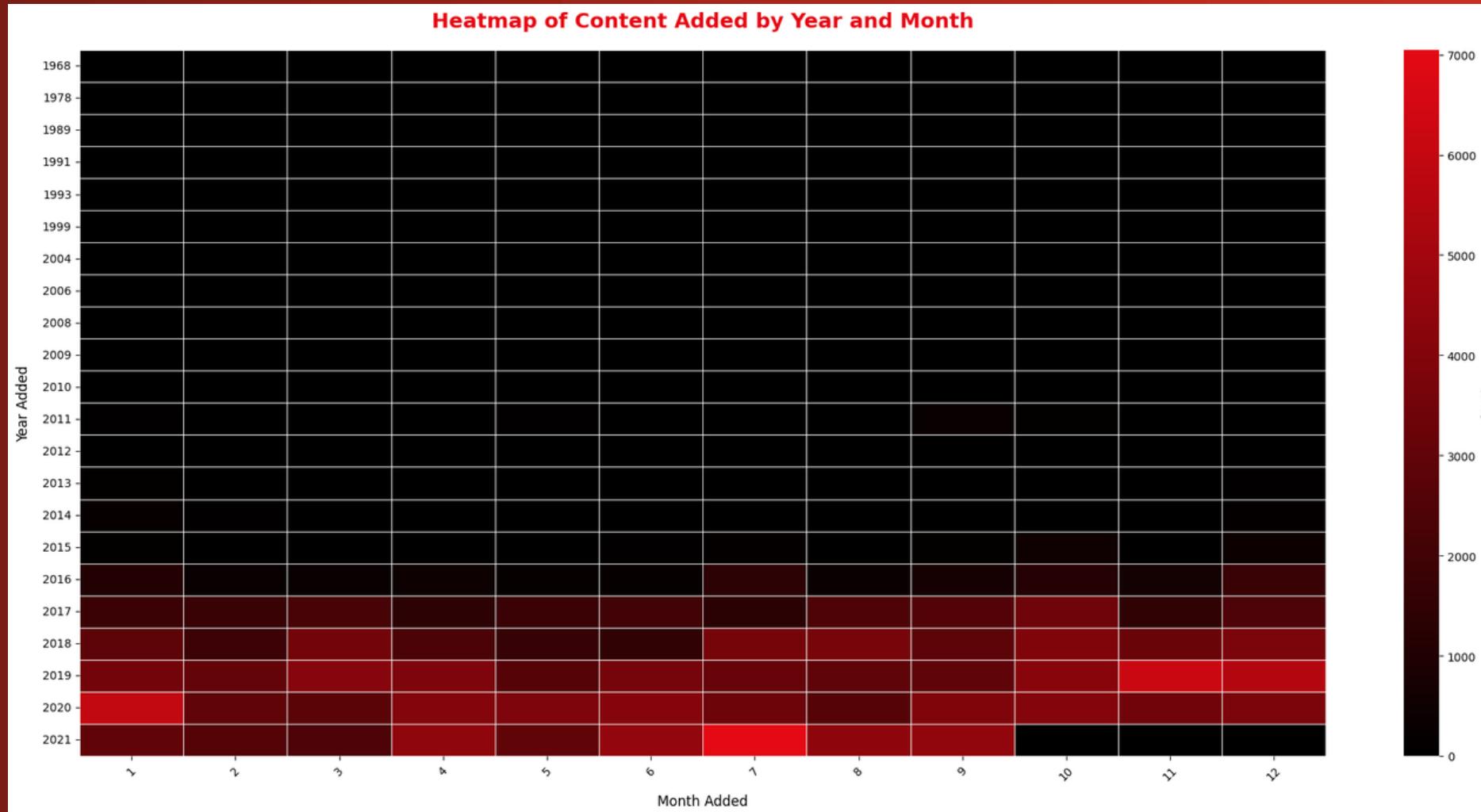
This cadence strategically seeds the platform with new titles immediately preceding the highest viewership window of the week.

Insight 3: Operational & Marketing Sync

This timing aligns our entire ecosystem—from marketing campaigns to discovery algorithms—to maximize impact when our members are most active.



Shift to a High-Cadence Release Schedule



1. A Clear Inflection Point

This heatmap clearly visualizes the strategic shift around 2016-2017. Before this period, content additions were sporadic and low-volume.

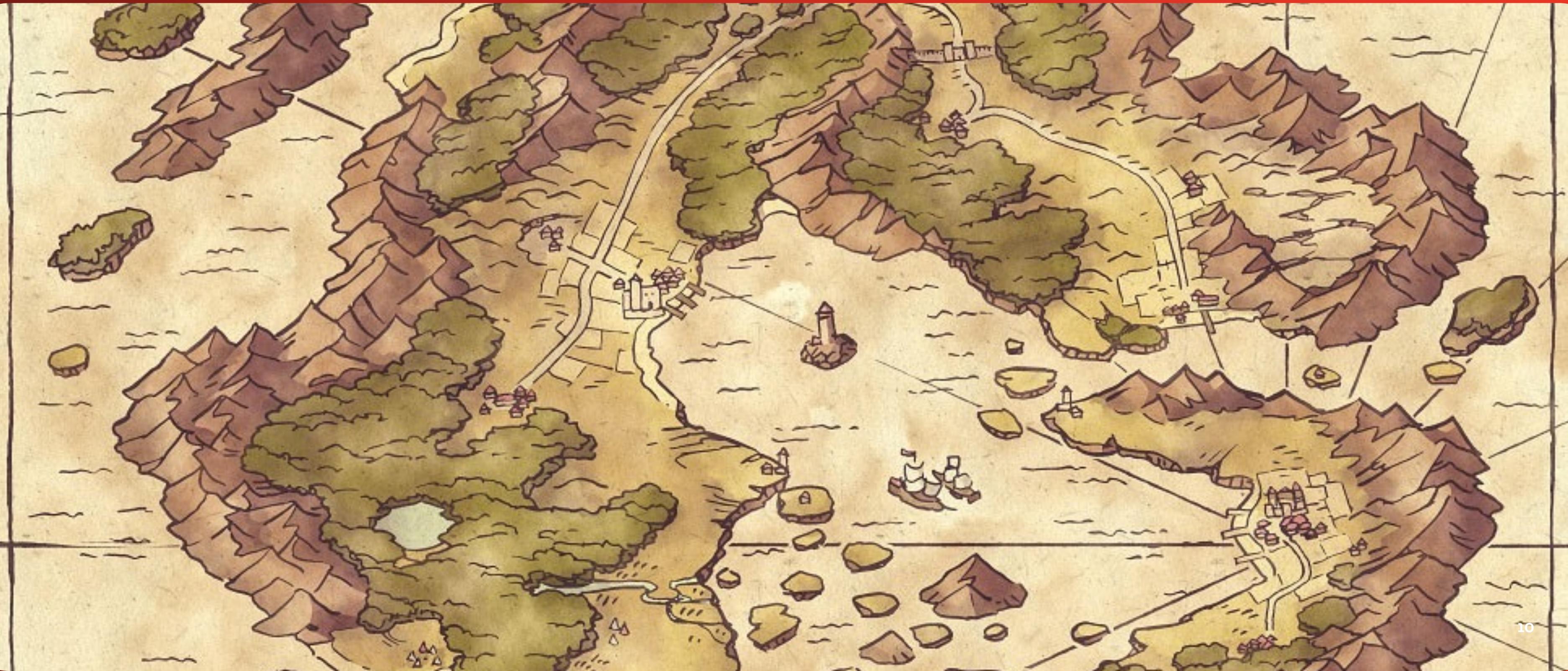
2. An "Always On" Content Engine

Post-2017, we moved to an "always on" model. The sustained deep red coloring shows that we now release a high volume of content consistently, every single month of the year.

3. Demonstrating Operational Scale

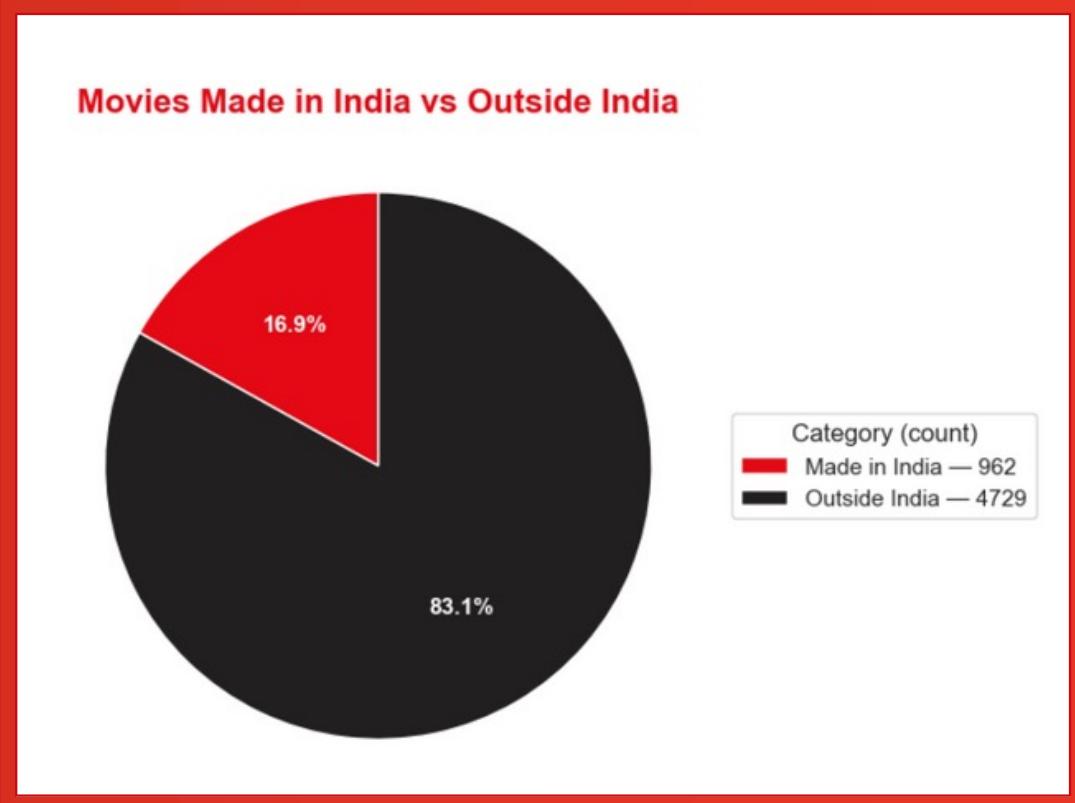
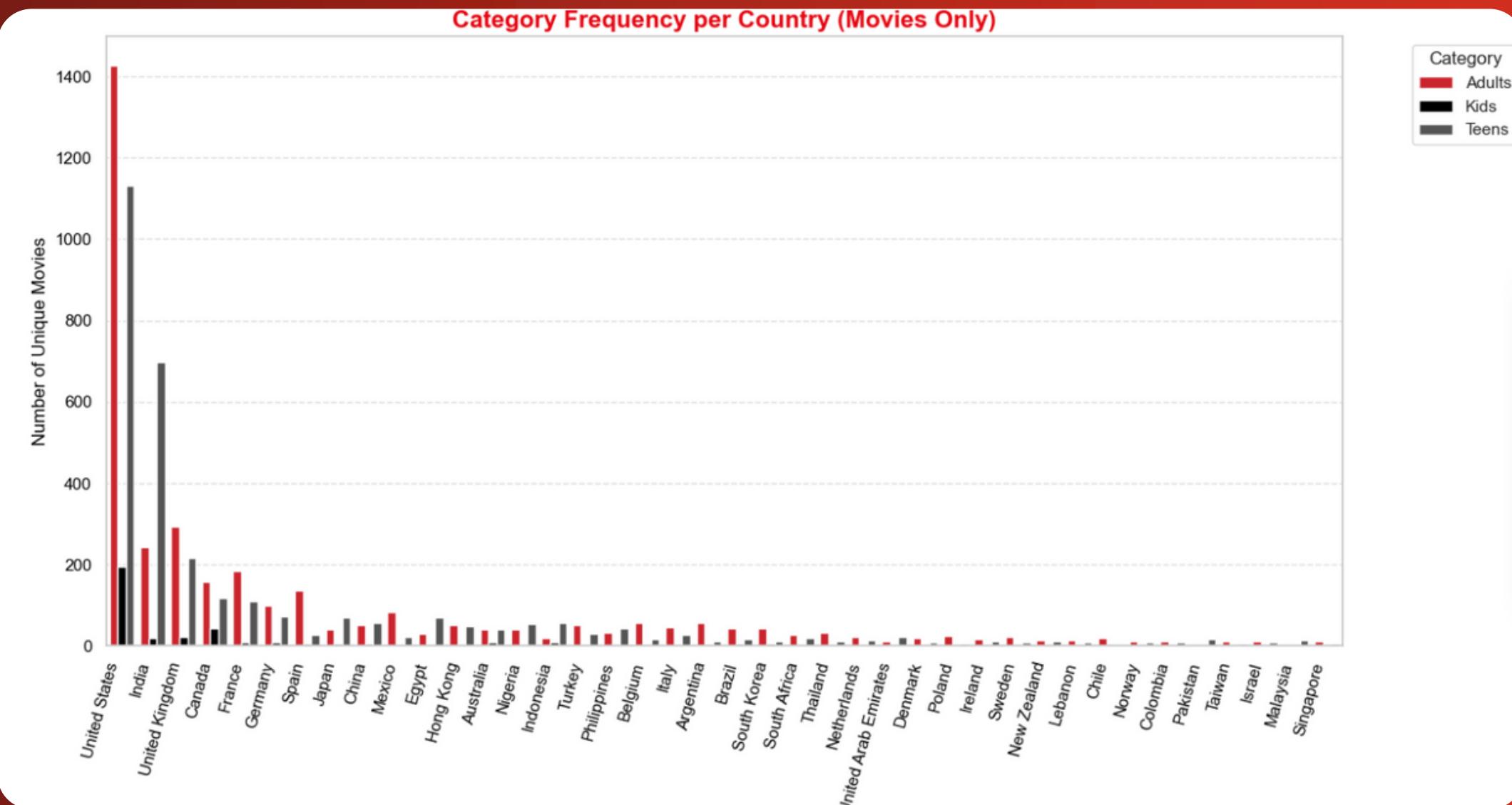
This visualization showcases the operational maturity and scale of our content pipeline, capable of maintaining an intense and consistent release schedule to constantly refresh the service for our members.

Geographic Intelligence

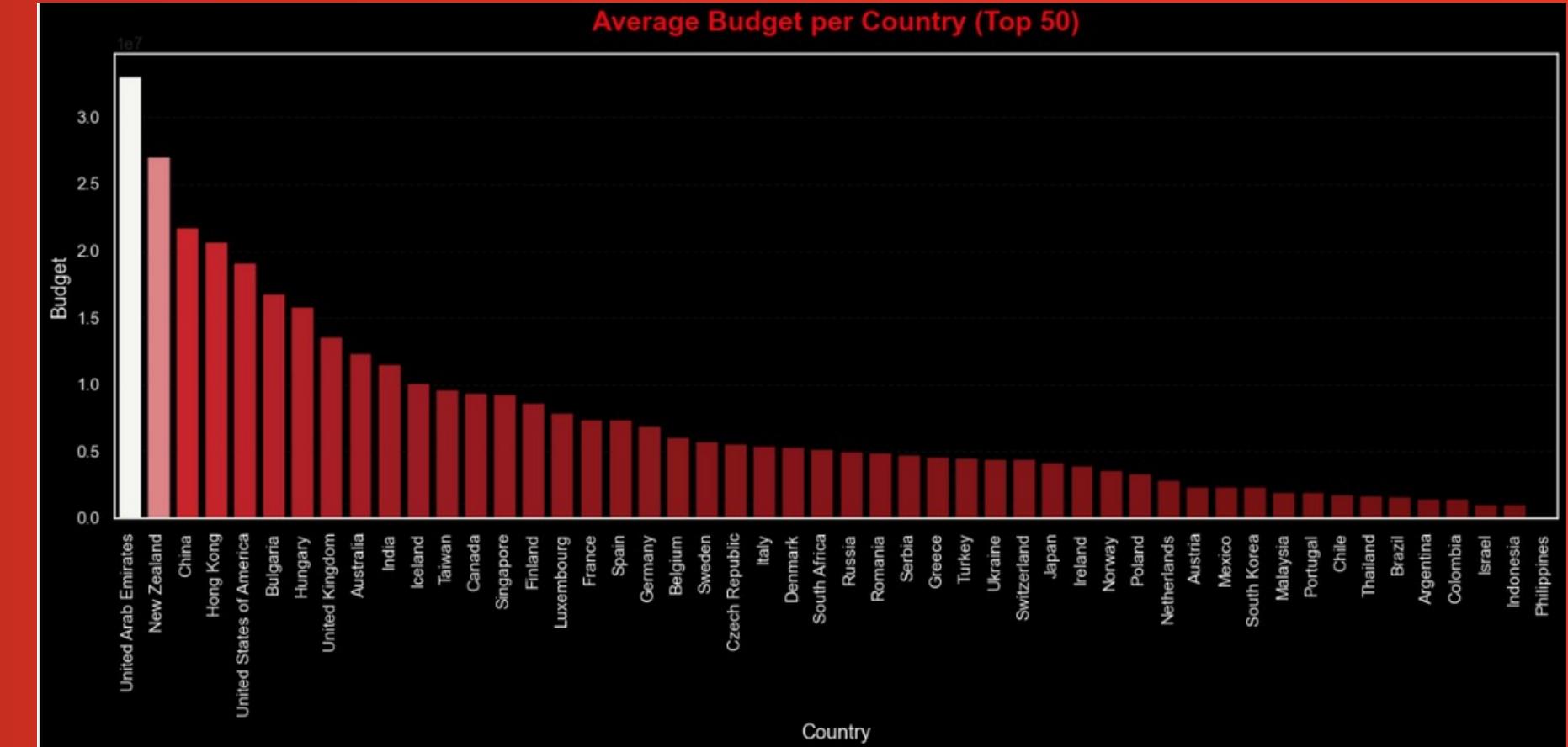
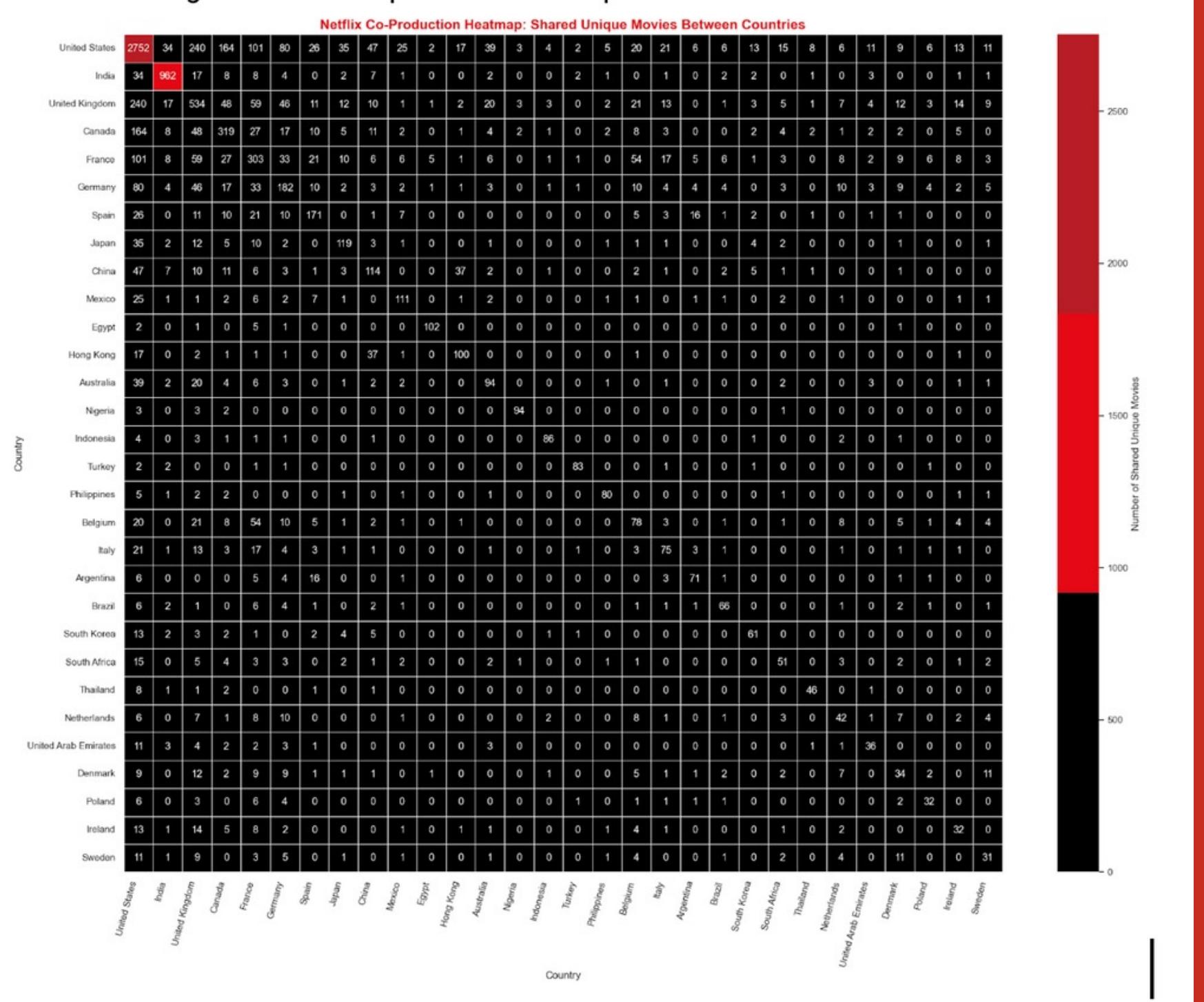


Analysis of Country Production:-

Netflix is home to films and series produced across approximately **134** countries, representing one of the most diverse entertainment catalogs in the world. The platform features movies in dozens of languages, showcasing a wide range of cultures, storytelling traditions, and cinematic styles.



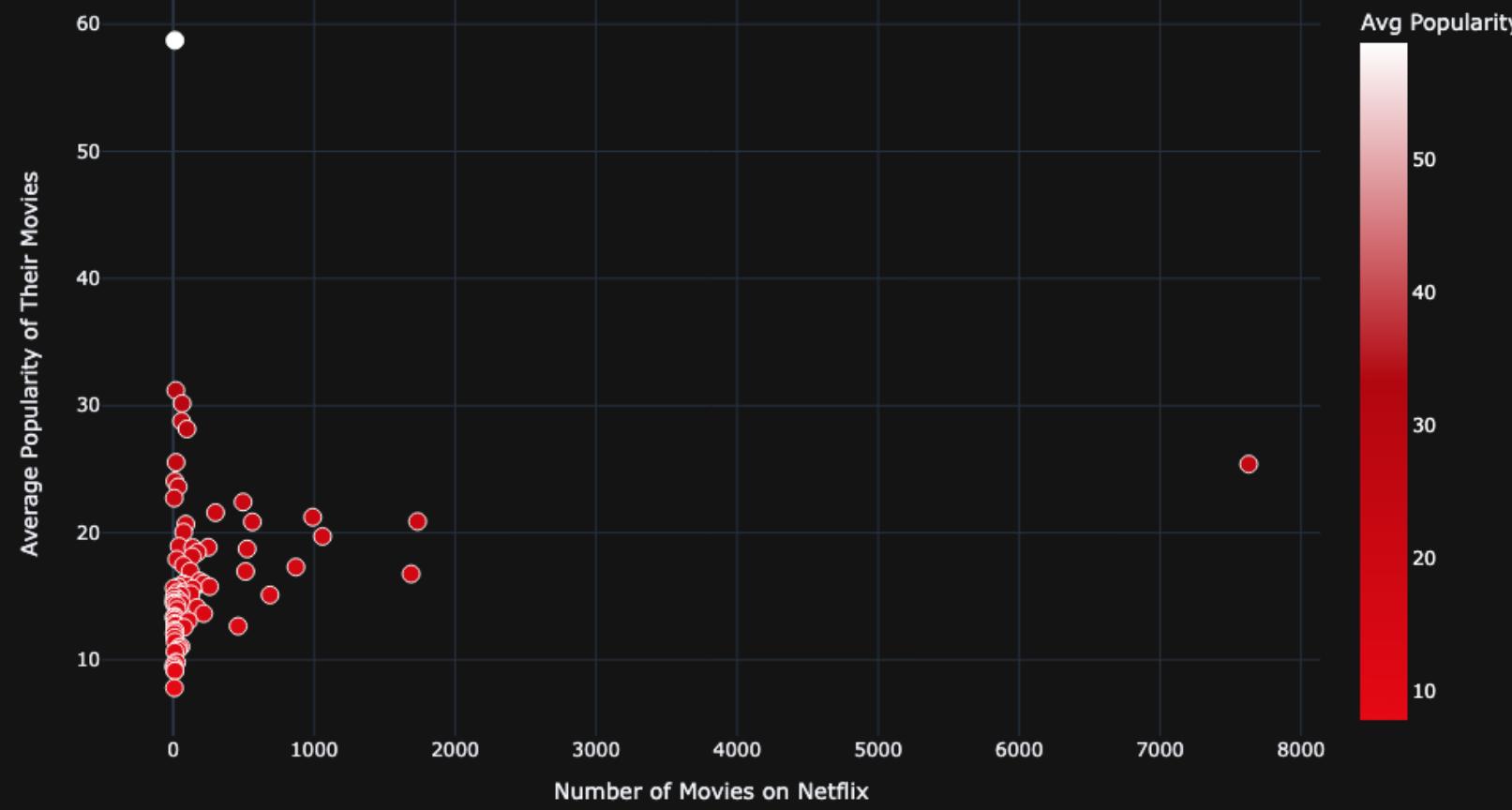
Movies are divided into three categories: **“Adults”**, **“Teens”**, **“kids”**. The **USA** produces the maximum number of movies in all three categories followed by India.



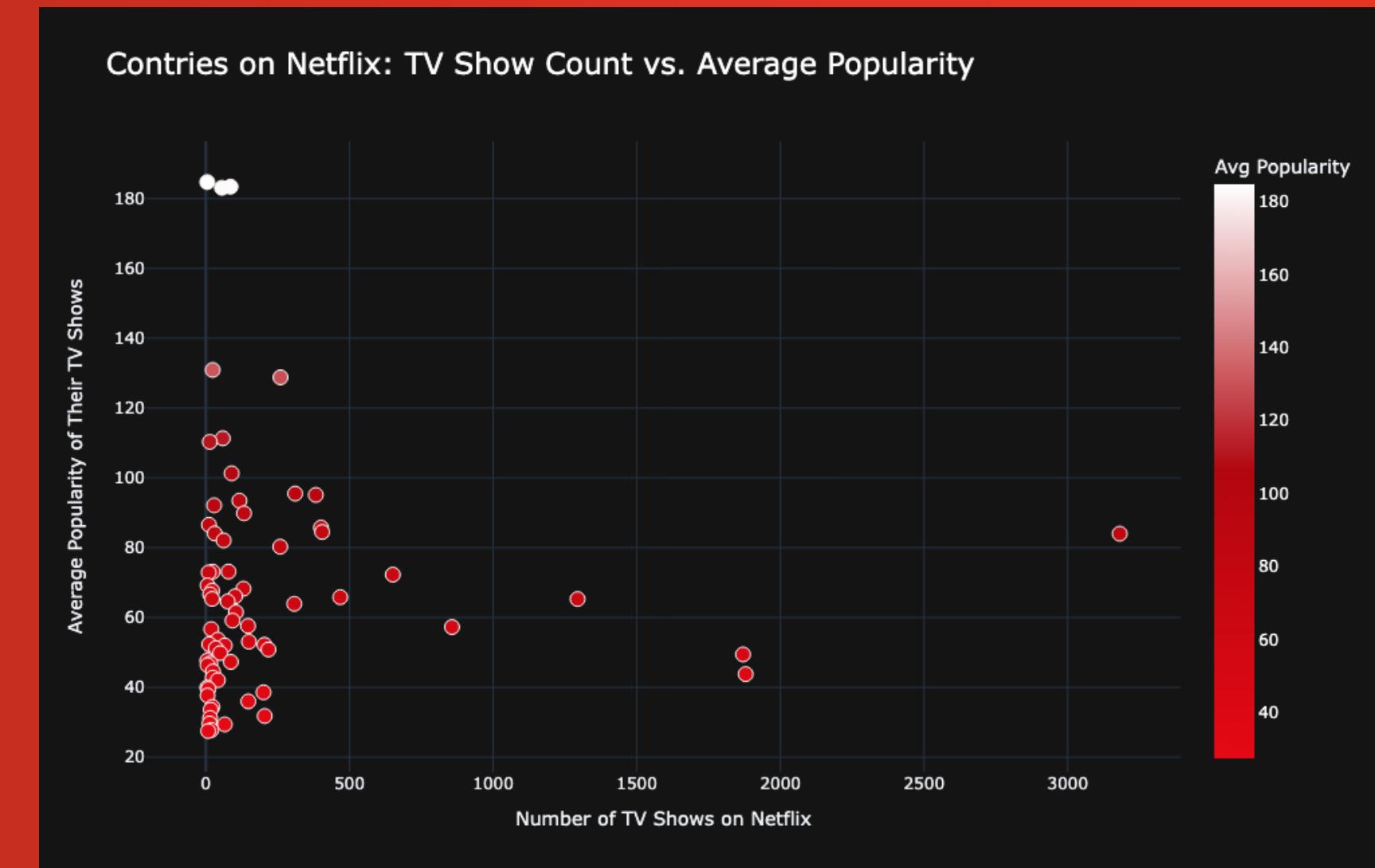
- The Co-Production Heatmap reveals that the United States has collaborated on the highest number of movie co-productions, primarily with countries such as the United Kingdom, Germany, France, and Canada.
- Countries like the U.A.E, New Zealand, China, U.S.A, U.K. generally have higher average budgets for production of movies. While countries like the Philippines, Indonesia, Israel etc. have lower average budgets for production of movies.

Countries with high average popularity but small catalogs are under-served on Netflix → prioritize acquisitions/co-productions and featuring.

Countries on Netflix: Movie Count vs. Average Popularity



Contries on Netflix: TV Show Count vs. Average Popularity



Genre Intelligence

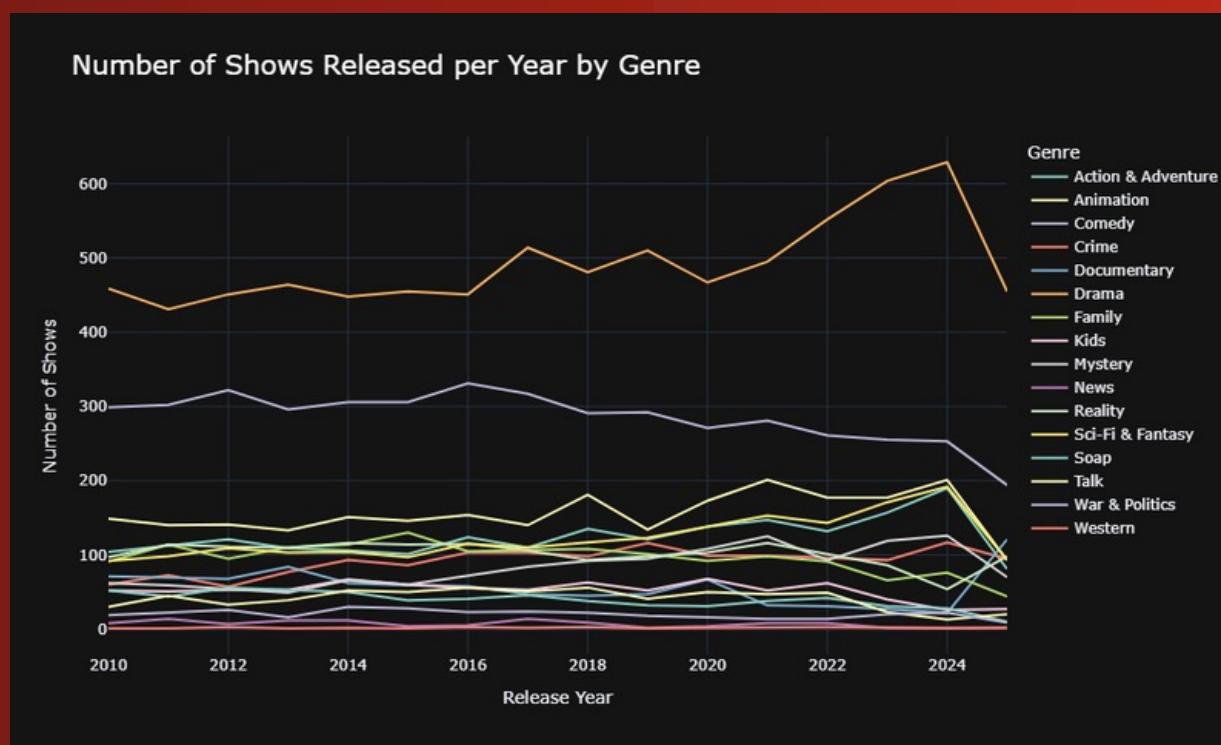
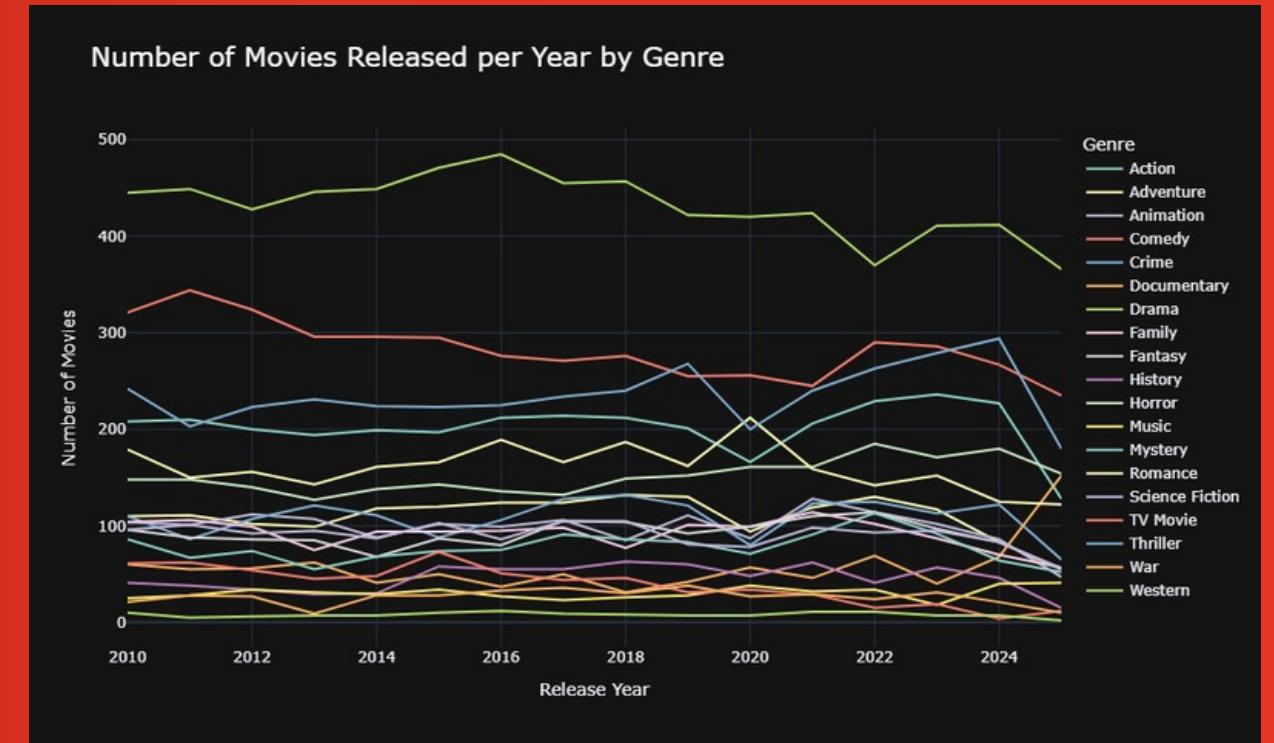
Analyzing performance trends across content categories

Genre Evolution From 2010 to 2025

Observations

Analysis reveals that drama is the most produced movie genre every single year while western is the least produced movie genre during the same time period.

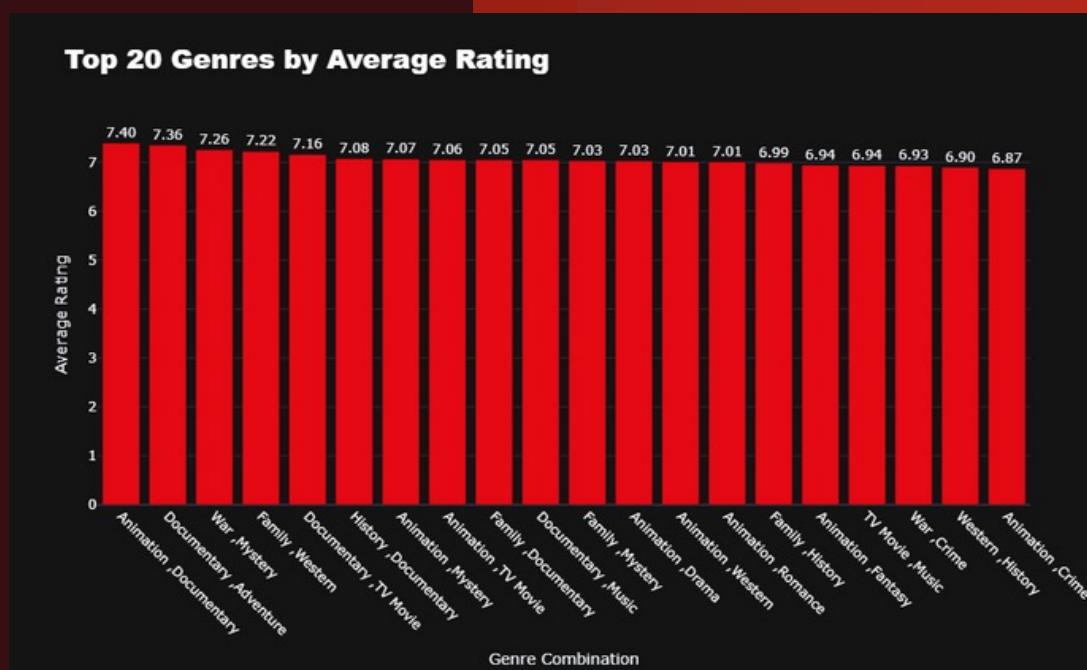
The same observations were obtained from TV shows as well where drama was the most produced genre and western was the least produced genre.



Insights

The genre drama has the most number of both movies and TV shows on Netflix. This is interesting because drama is neither the most popular nor the highest rated genre. Since popularity directly correlates with views and views directly correlate with revenue for Netflix, more resources should be dedicated to acquiring better rated and popular genres.

Influence of Genre on Movie Ratings



Observations

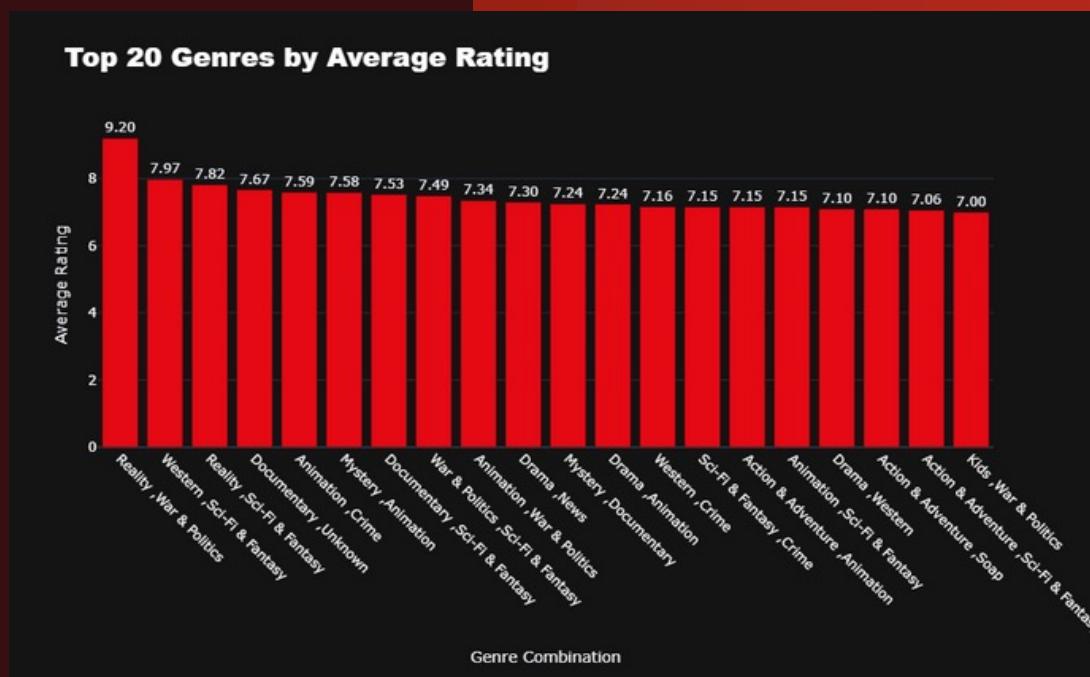
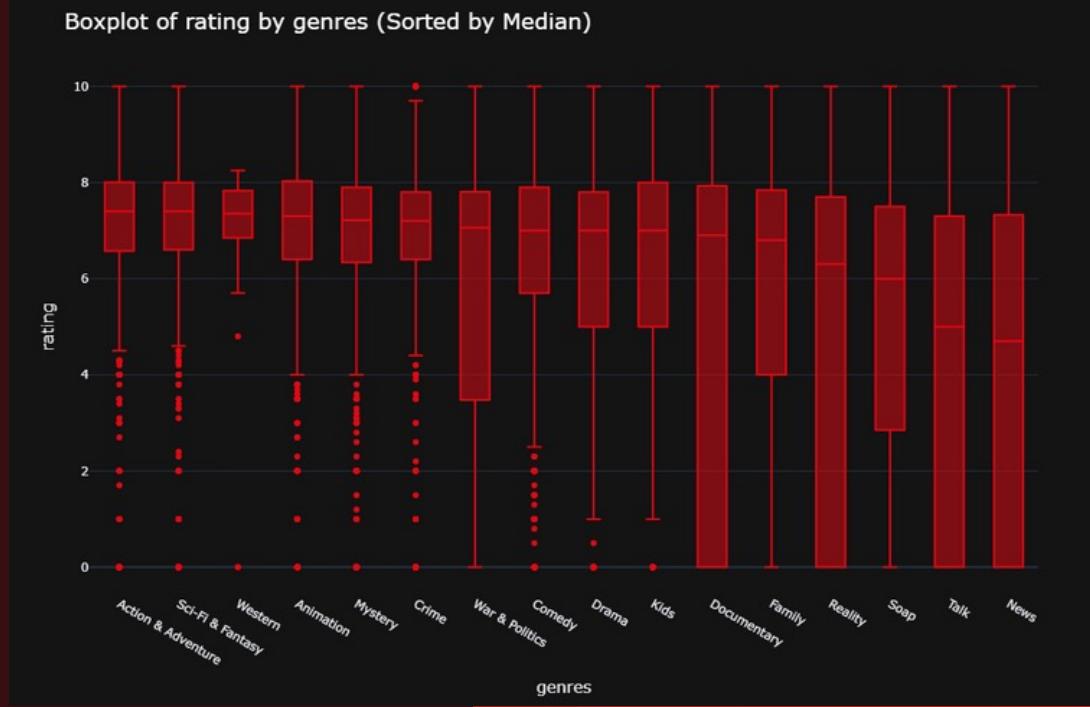
The single best rated movie genre is animation with a median rating of 7 and the highest rated genre combination is animation+documentary with 7.4 as its average rating.

Statistical tests, one-way ANOVA and LSD test in particular, were performed to provide statistical proof for our results related to mean ratings which is described in our report.

Insights

We can see that drama is ranked 8th in the rating ranklist and the first combination where drama appears is in 12th place in the combinations ranklist. Therefore Netflix must divert resources into acquiring movies of the top rated genres or genre combinations.

Influence of Genre on TV Show Ratings



Observations

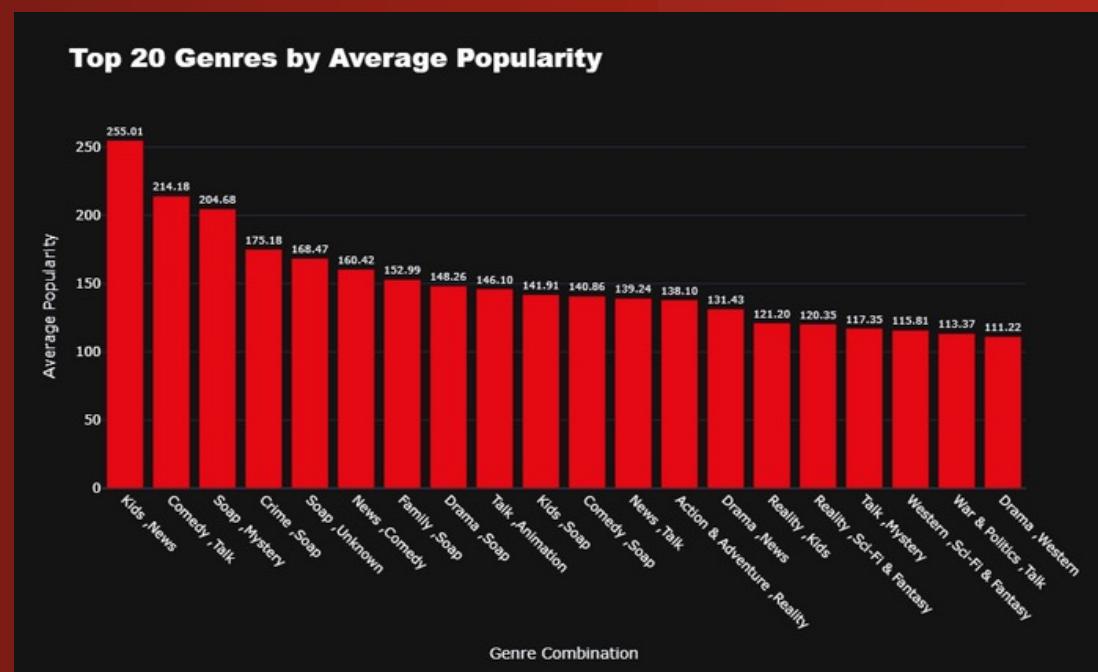
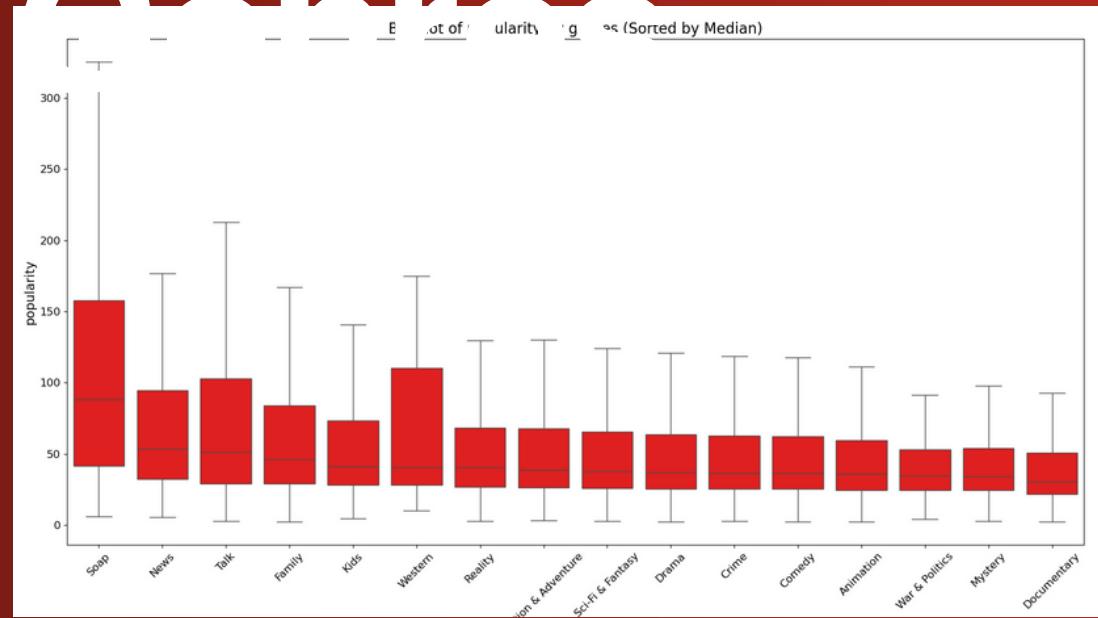
Analysis of TV ratings were performed similar to that of movies and we found that 'Action & Adventure' is the best rated genre of TV shows with 7.4 as its median rating. The genre combination 'reality' + 'war & politics' is the best rated combination 9.2 as its median rating.

The same statistical tests that were used for movies were used here as well.

Insights

The highest occurring genre on the Netflix platform, drama, is only the 9th highest rated genre and the first genre combination that has drama appears at the 10th position. This is similar to what was observed in movies. More resources have to be dedicated to acquiring better rated TV shows.

Analysis on Popularity of Movie Genres



Observations

Soap is the most popular TV show genre followed by news and talk. Among the pair combinations of genres, kids + news is the most popular combination followed by comedy + talk and soap + mystery.

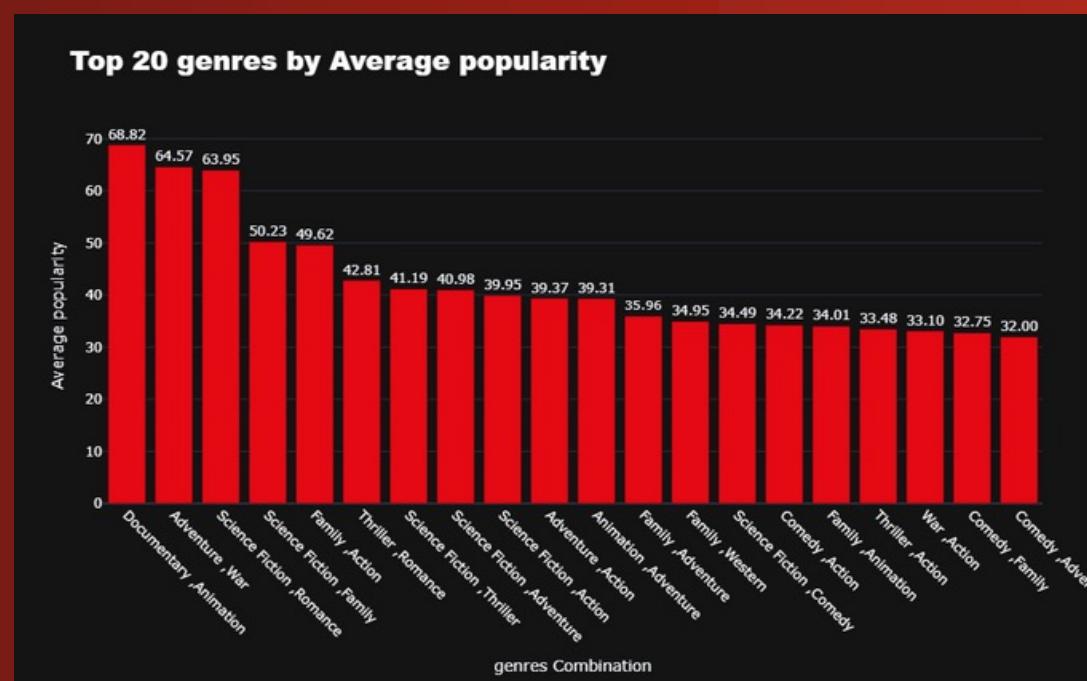
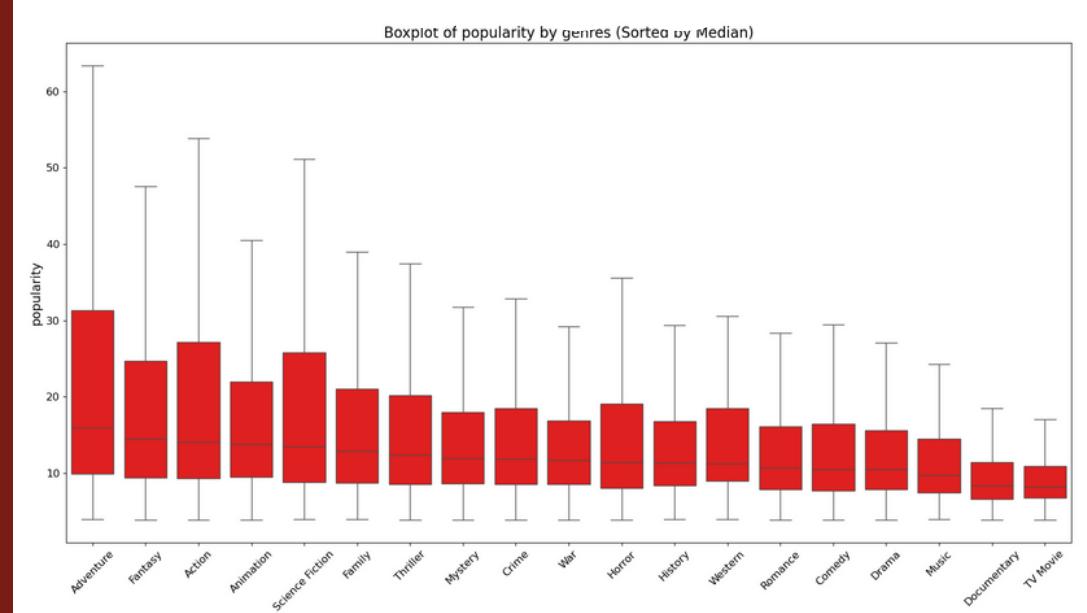
Insights

Drama is ranked only at the 10th position in the popularity charts and the highest appearance of drama in the top combinations is at the 8th position. Since popularity of a TV show is directly related to its money making ability for Netflix, more resources should be dedicated to acquiring the popular genres.

Statistical tests

Similar to the statistical test performed for genre-wise rating, one-way ANOVA (F-test) and LSD tests were used in genre-wise popularity as well.

Analysis on Popularity of Movie Genres



Observations

Adventure is the most popular movie genre followed by fantasy and action. Among the pair combinations of genres we have documentary+animation as the most popular genre combination.

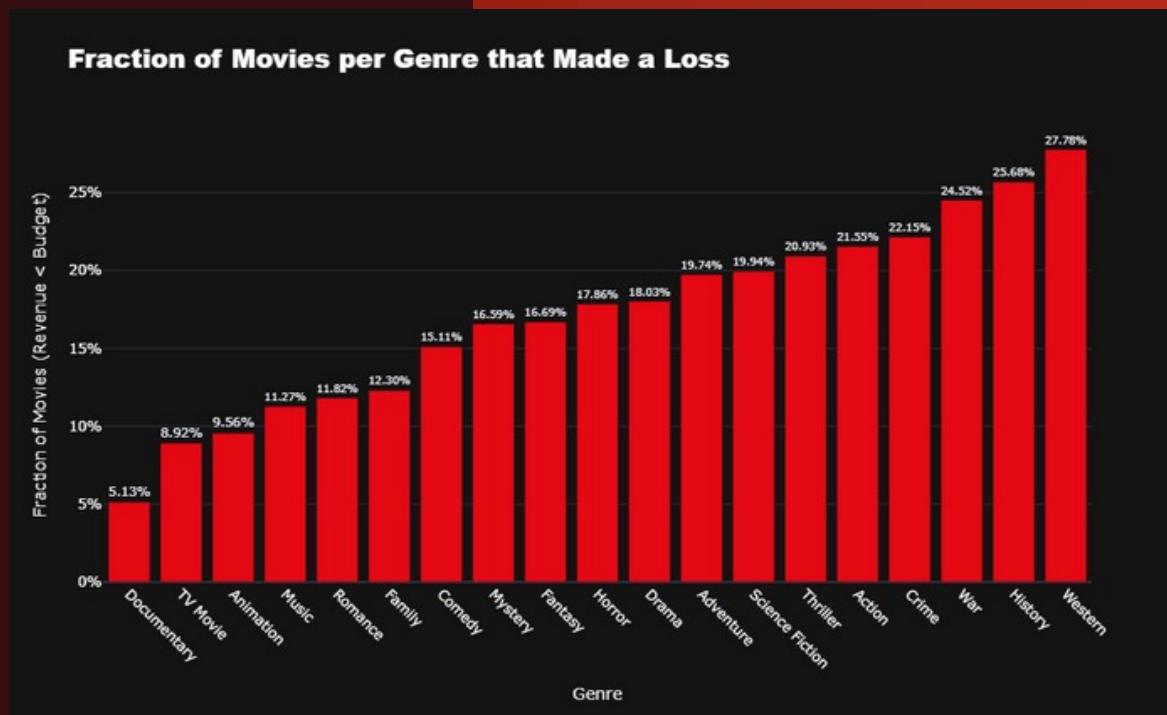
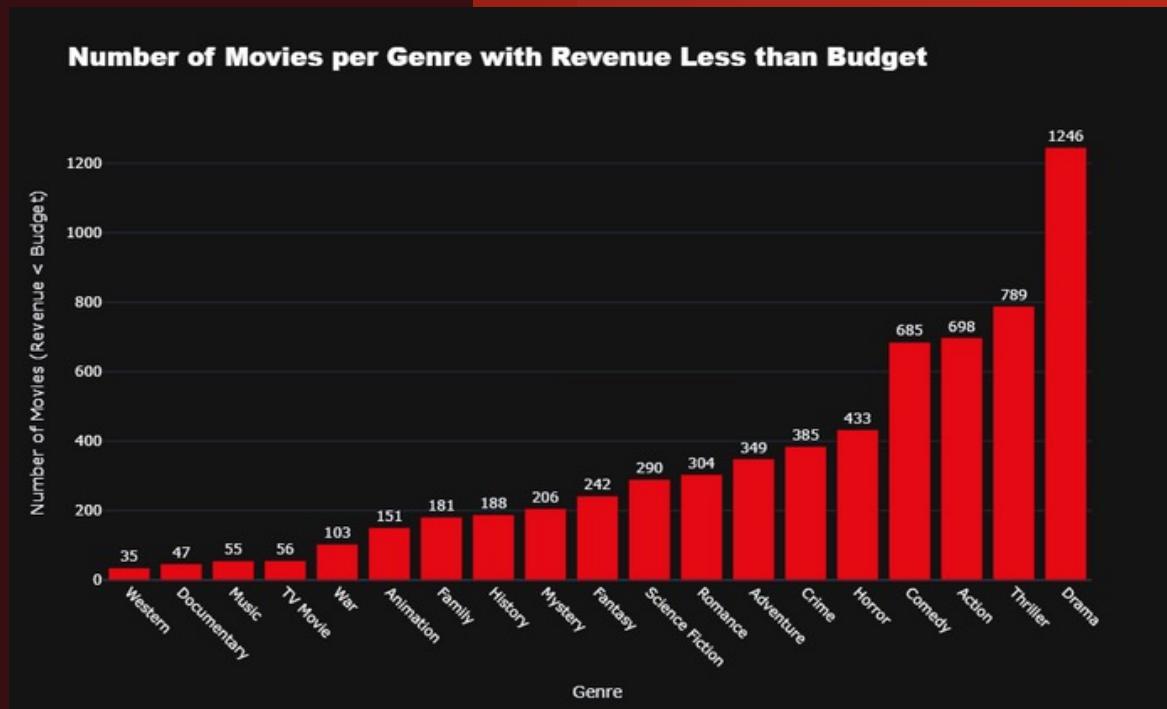
Insights

Similar to the popularity related insights for TV shows, Netflix is advised to focus on acquiring movies that is of one or more of the popular genres because of the close relation between popularity of movie and revenue for Netflix.

Statistical tests

Similar to the statistical test performed for genre-wise rating, one-way ANOVA (F-test) and LSD tests were used in genre-wise popularity as well.

Profitability and Genre



We use a movie's box office profit making ability as a proxy for its profit making prospect for Netflix. Even though some box office flops become hits once its released on OTT platforms we can see that it is a rare phenomenon. Therefore this proxy is a useful one.

Observations

We can see that the genres documentary, TV movies and animation are the top three most profitable genres since most of the movies with any of those three genres have made profits. Similarly we can see that western and history are risky investments since a large percentage of them have made losses in the past.

Statistical Tests

To provide proof of influence of genre in the profitmaking ability of movies, the chi-squared contingency test was performed. The details and results are included in the report.

Dramas

Comedies

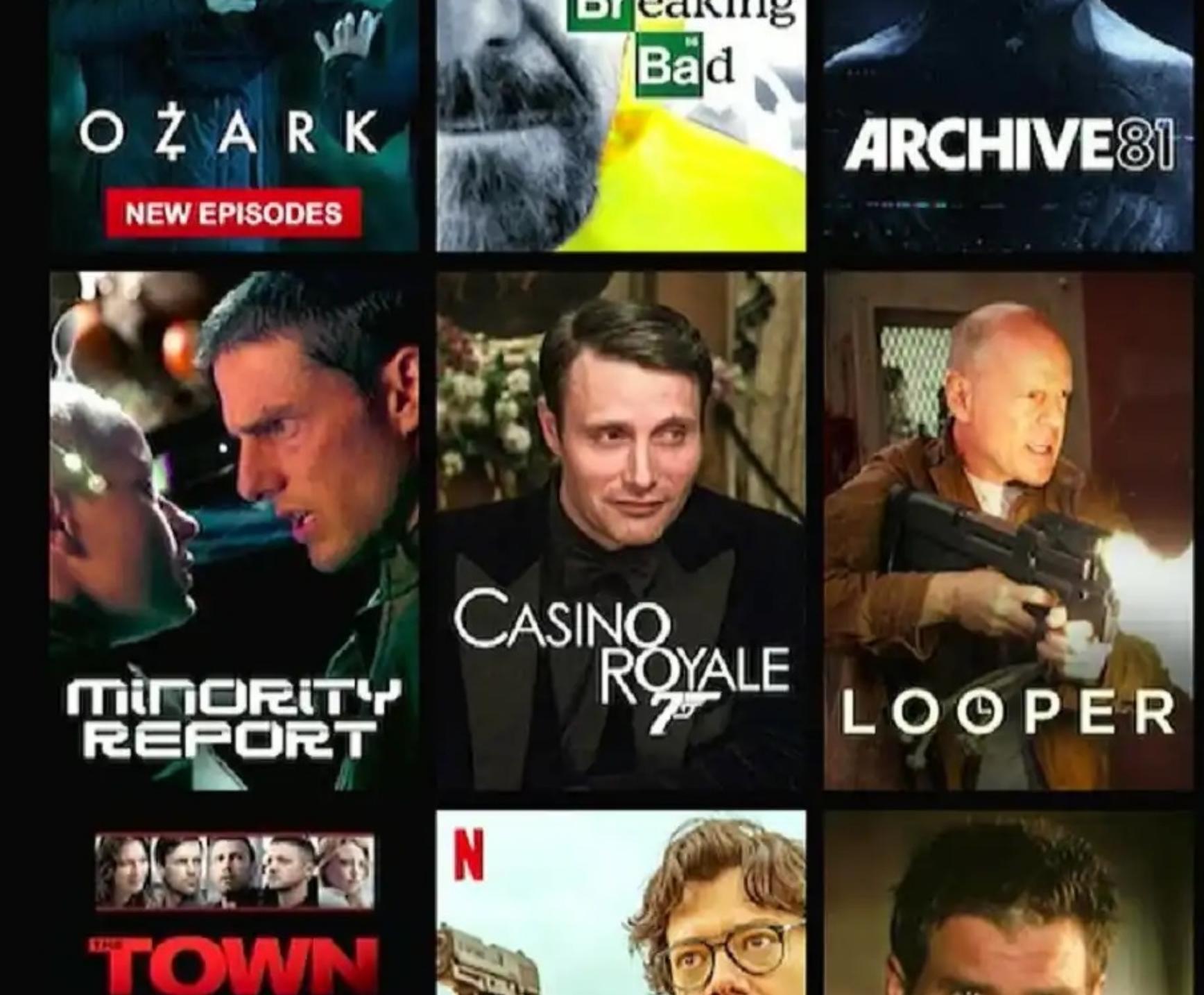
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Action

Anime

Black Stories

Children & Family

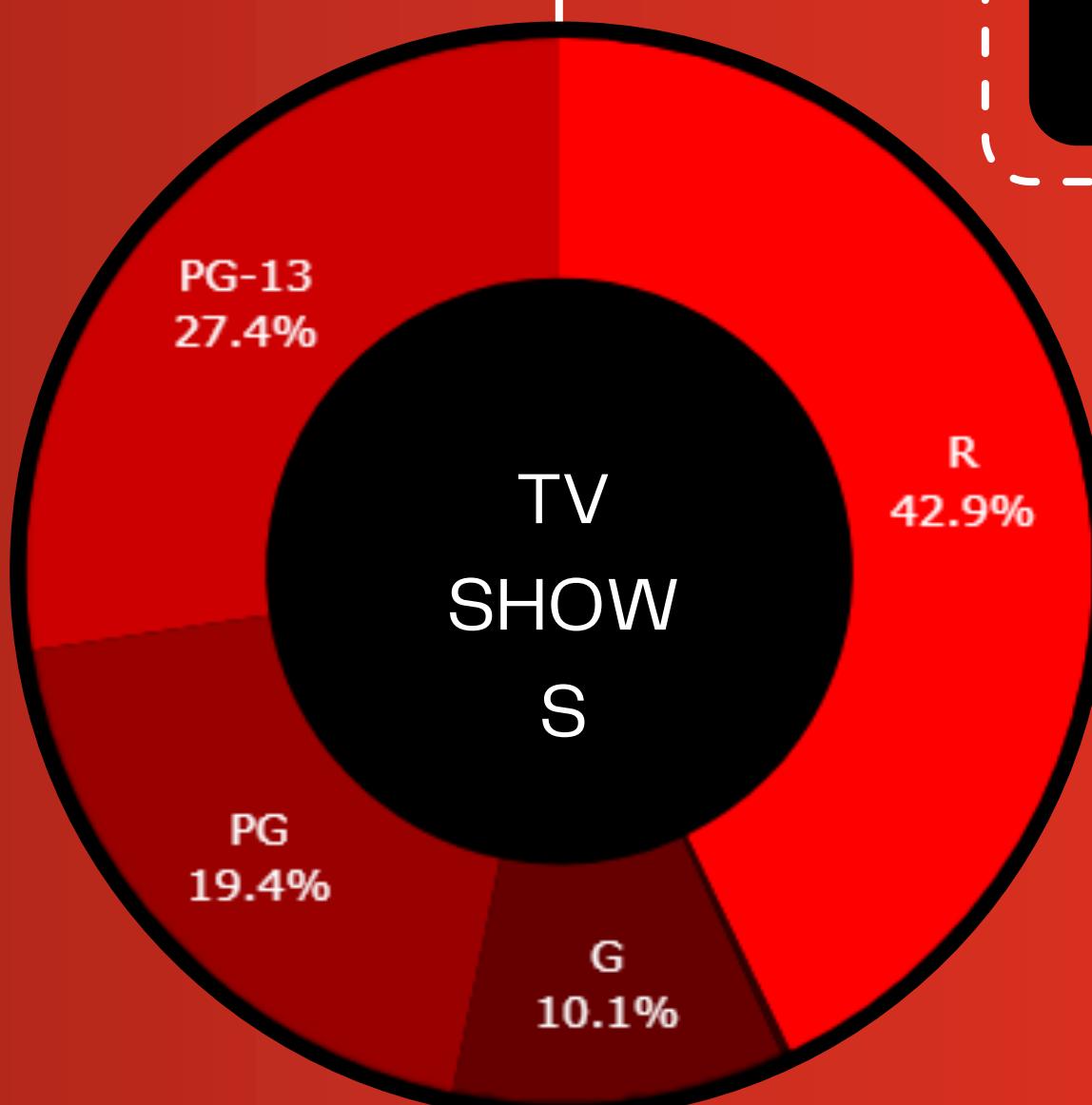
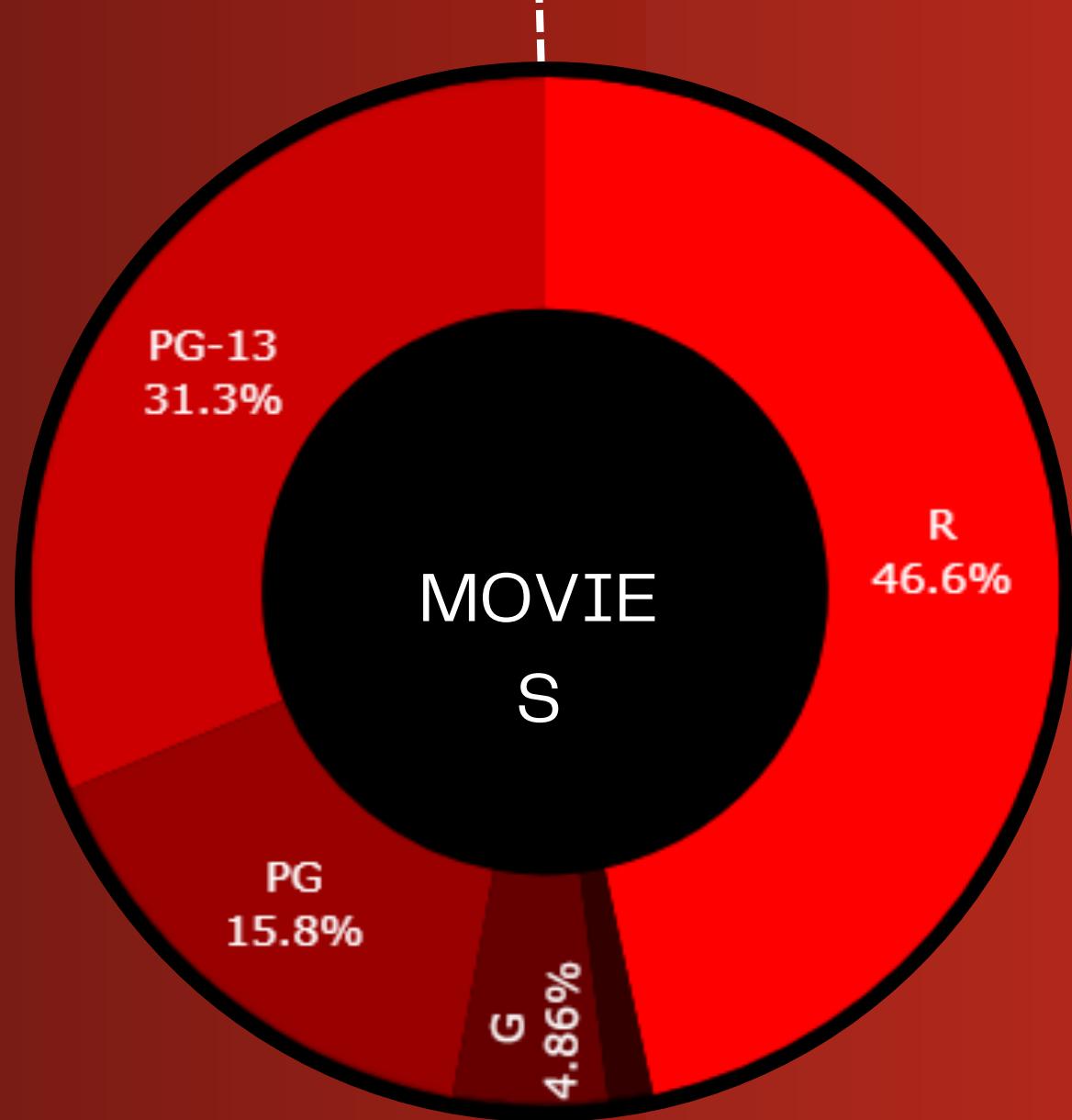


Rating & Audience Targeting:-



Rating Distribution:-

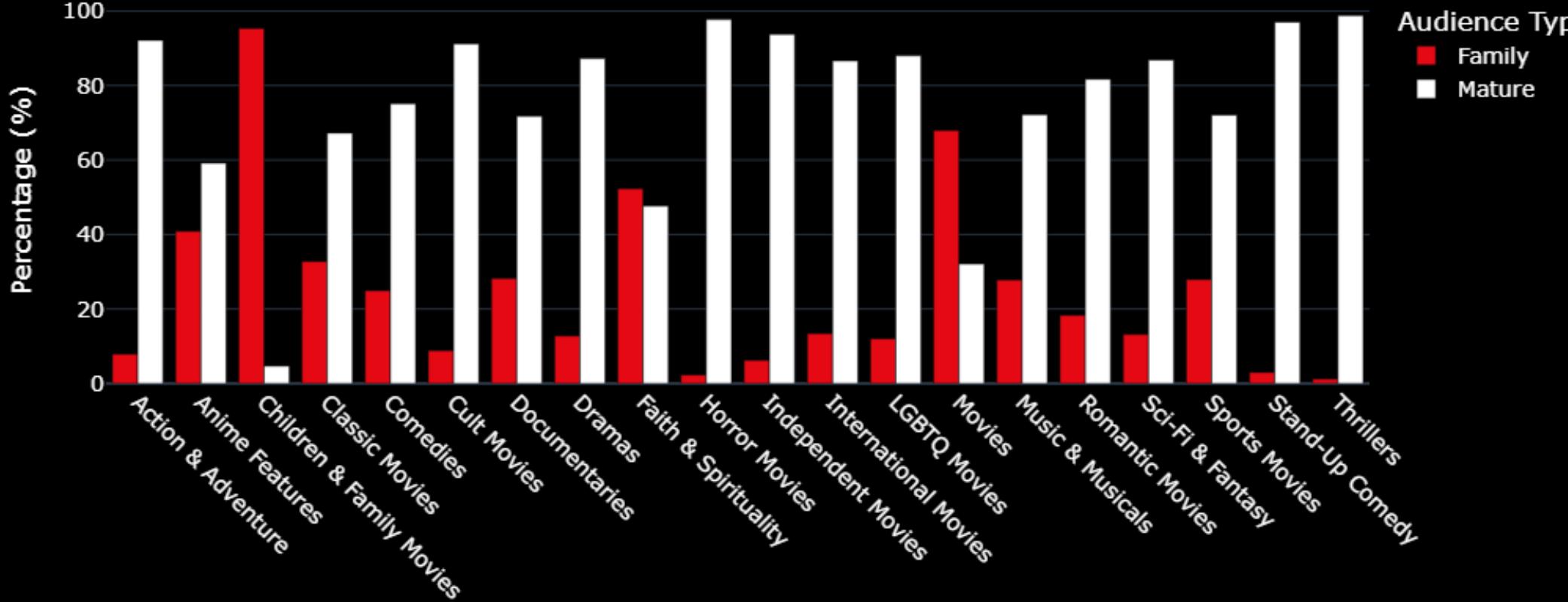
#KEY POINTS



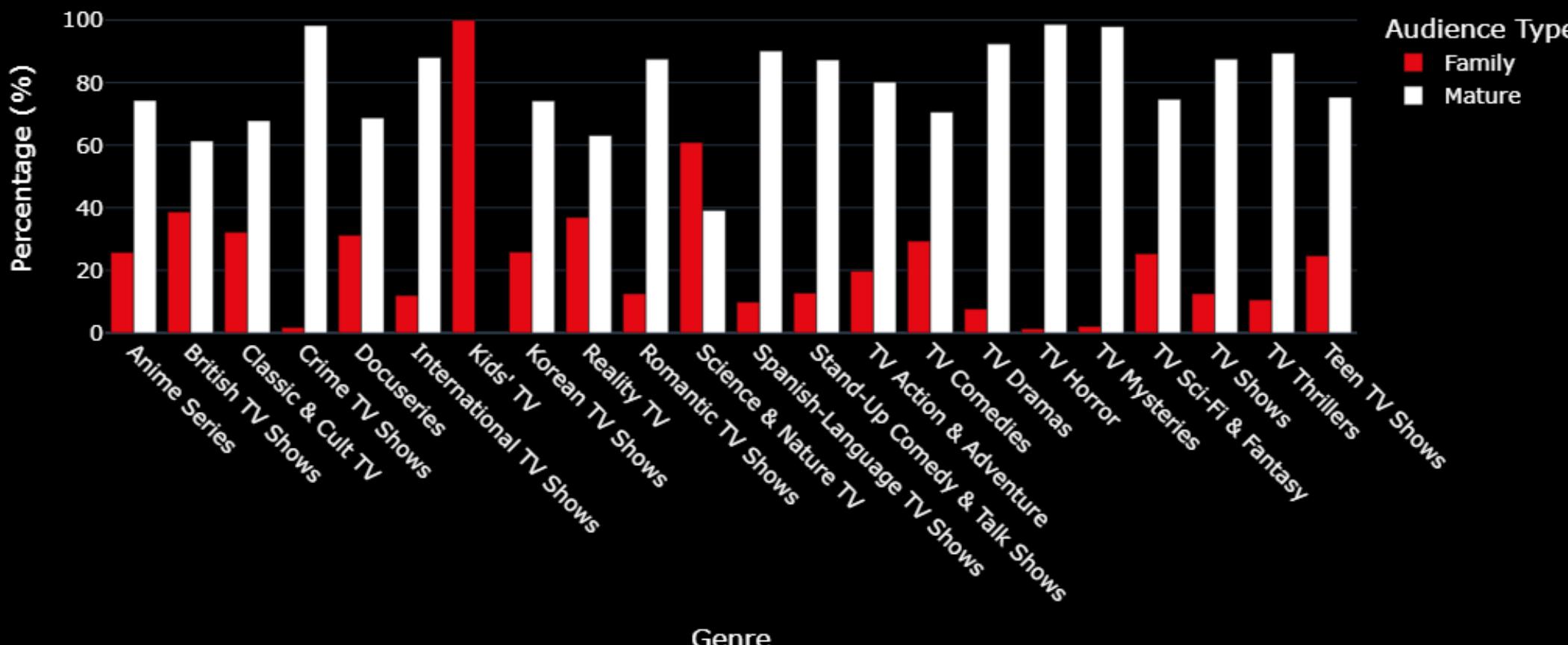
Majority of Netflix content is targeted at Mature Audiences with more than 40% R-rated and 30% PG-13 rated movies and TV shows

G and PG rated form the family friendly content with only 20% Movies and 30% TV shows

Family vs Mature Content Distribution by Genre (Movies)



Family vs Mature Content Distribution by Genre (TV Shows)

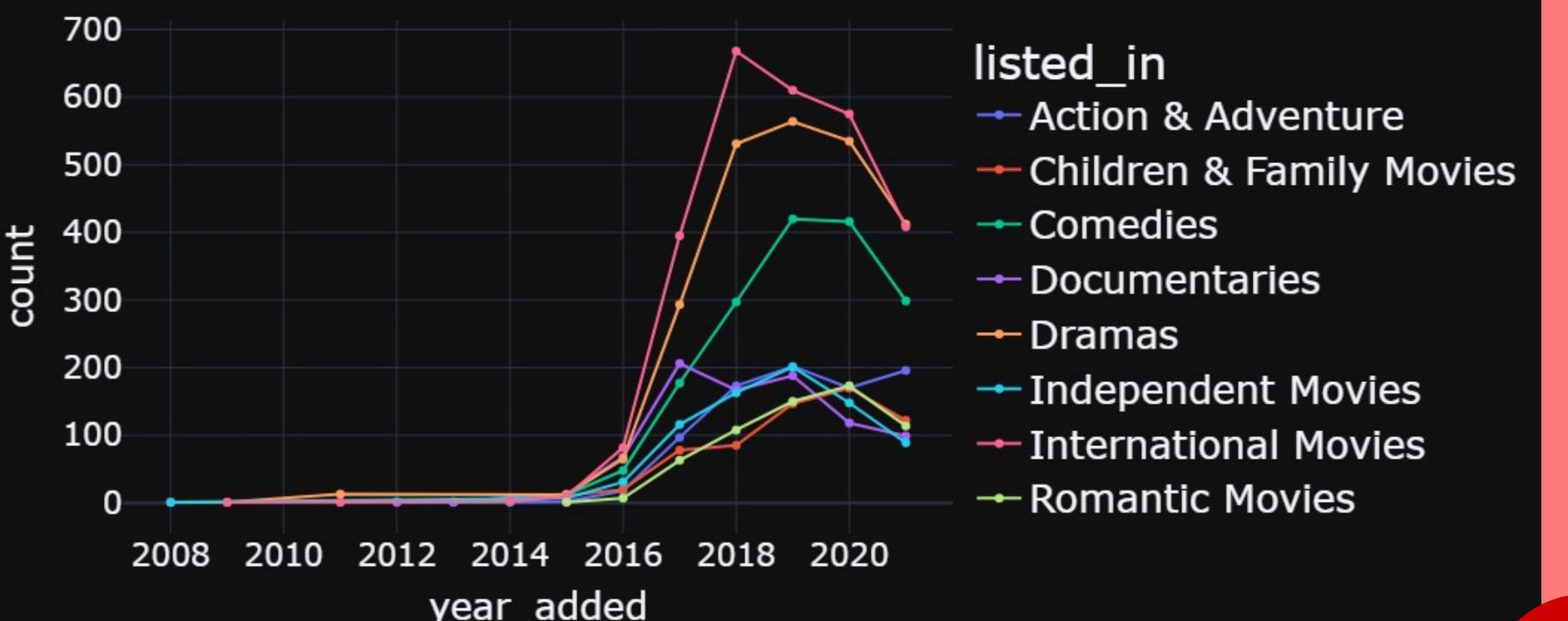


Kids' TV and Science/Nature TV genres are strongly dominated by Family-rated content, indicating Netflix's strategy to keep educational and youth programming widely accessible.



Most movie genres on Netflix are skewed towards a Mature audience, especially Thrillers, Stand-Up Comedy, Horror, Cult Films, and Action Movies, which are overwhelmingly adult-targeted. In contrast, Anime & Spiritual Movies retain a notable share of Family content.

Emerging Movie Genres on Netflix Over Time



International movies show the highest growth at **58 percent**, indicating Netflix's strategy to appeal to **diverse global audiences** and cater to **region-specific storytelling**.

Comedies and Dramas are steadily rising at **52% and 45%** respectively, reflecting increased audience demand for **everyday, emotion-driven and feel-good content**.

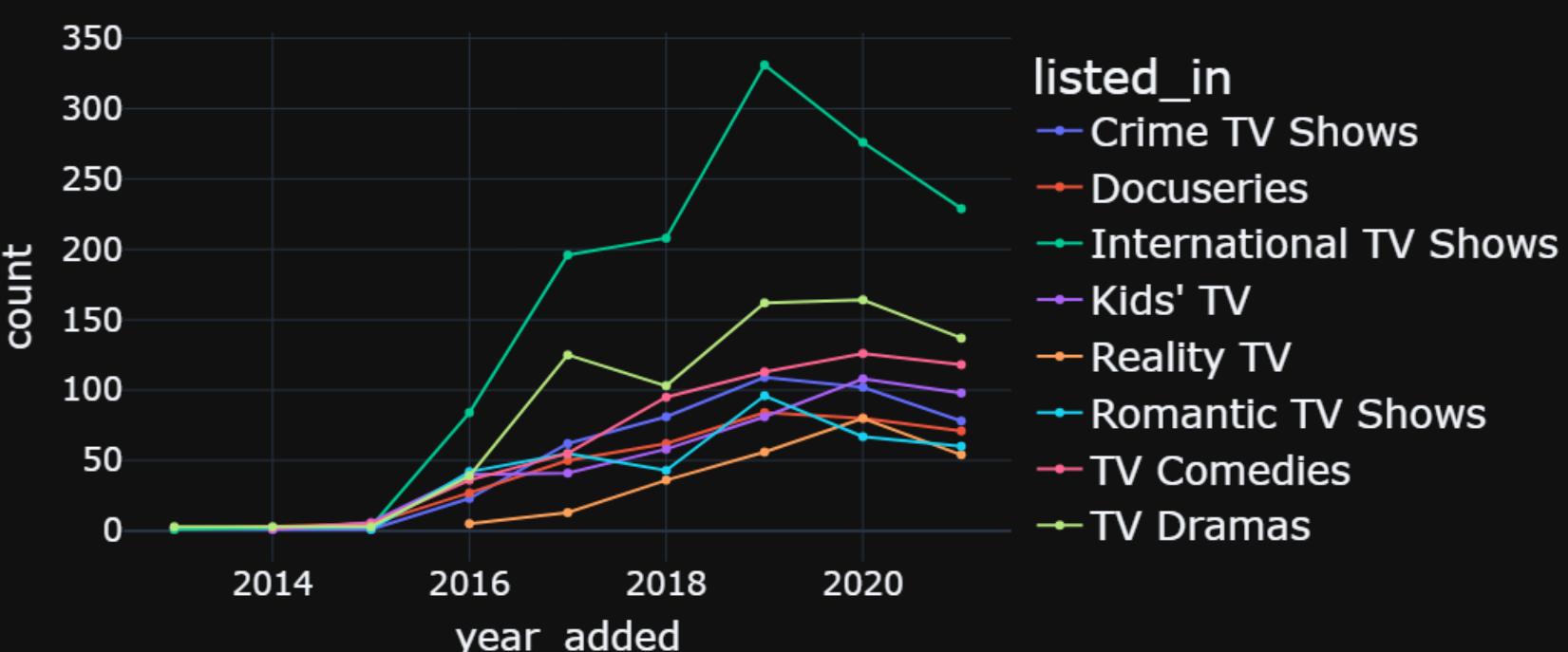
Documentaries, Independent Films, and Family content show gradual growth, signaling a broadening taste for **authentic narratives** and unique storytelling styles.

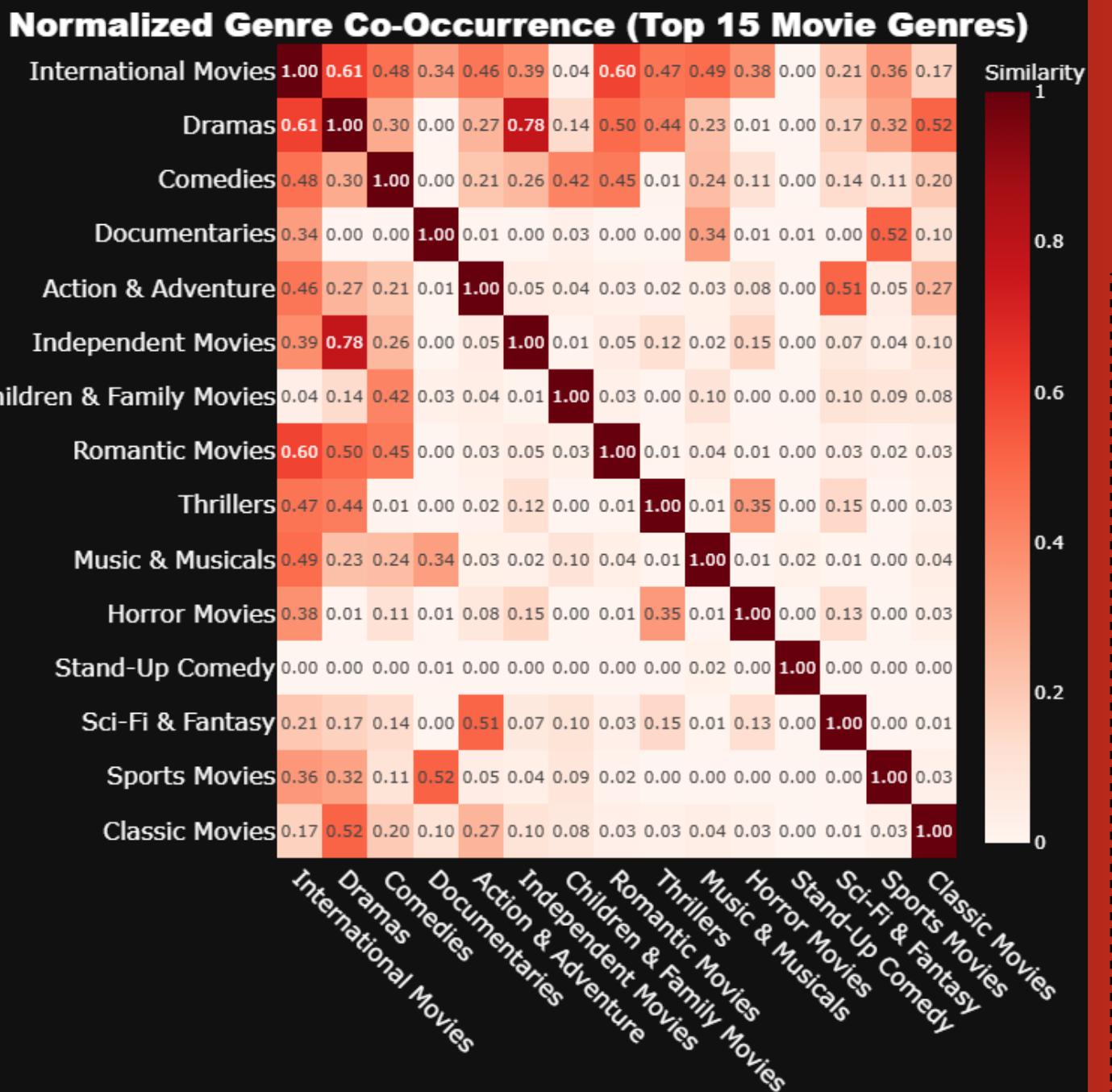
Similar to movies, **International TV Shows** show the strongest growth at **20%**, reflecting Netflix's strategy to expand global reach and promote regional storytelling in **multiple languages**.

TV Dramas and TV Comedies are growing steadily, suggesting audiences prefer **character-driven stories** and light entertainment suitable for **binge-watching**.

Genres like **Crime Shows, Reality TV, and Docuseries** continue to rise, showing viewers' increasing interest in **real-life narratives, investigations, and unscripted entertainment**.

Emerging TV Shows Genres on Netflix Over Time





KEY INSIGHTS

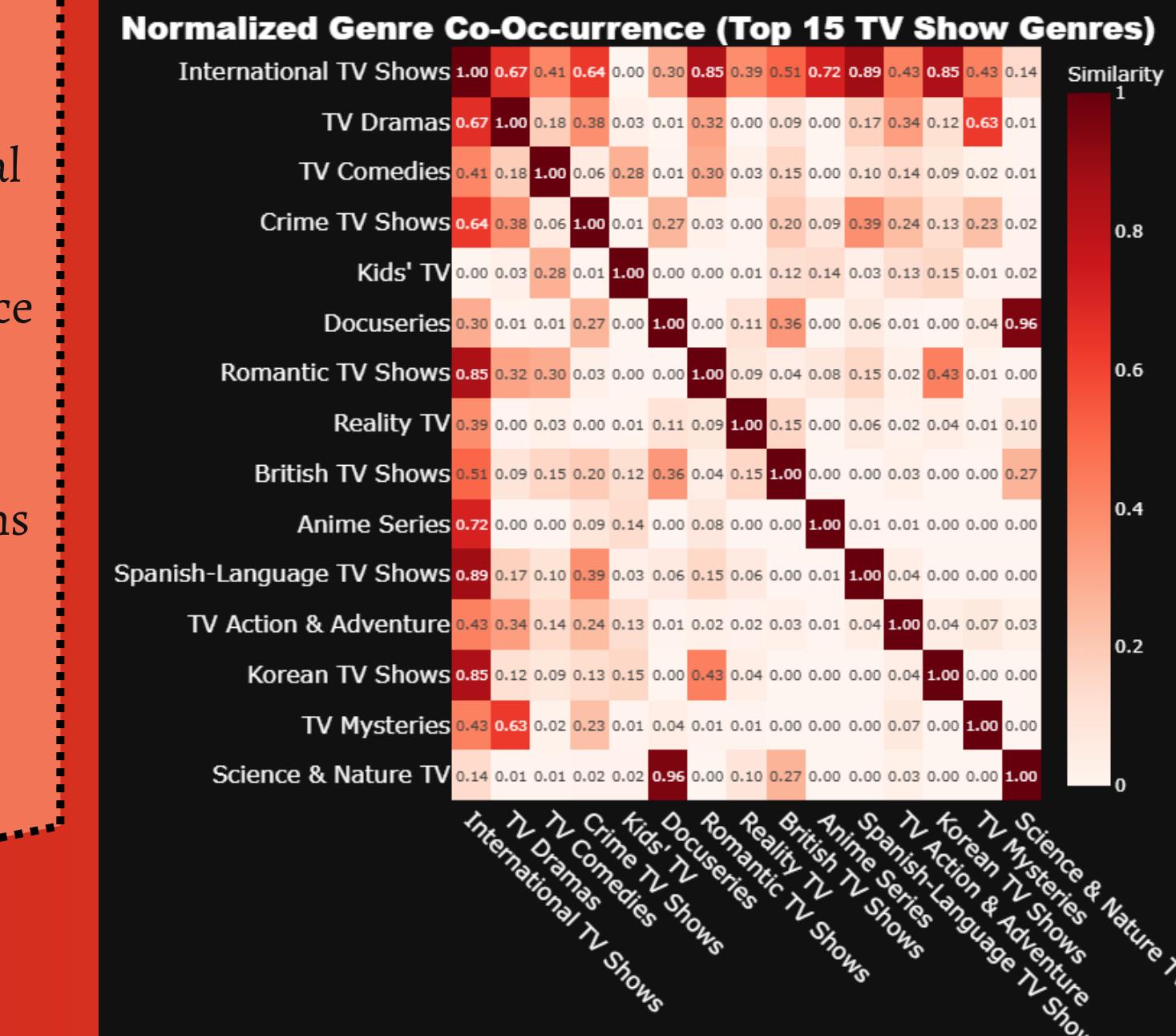
- Kids' TV rarely overlaps with Crime, Thriller, or Reality content — indicating strict audience segmentation.
- Genres like Drama and Comedies act as bridges that connect multiple genre clusters,

- Pure Niche Genres Stay Highly Isolated: Stand-up comedy, Kids' TV, Sports Movies, and science and nature TV shows have low co-occurrence; these are highly preference-specific categories.

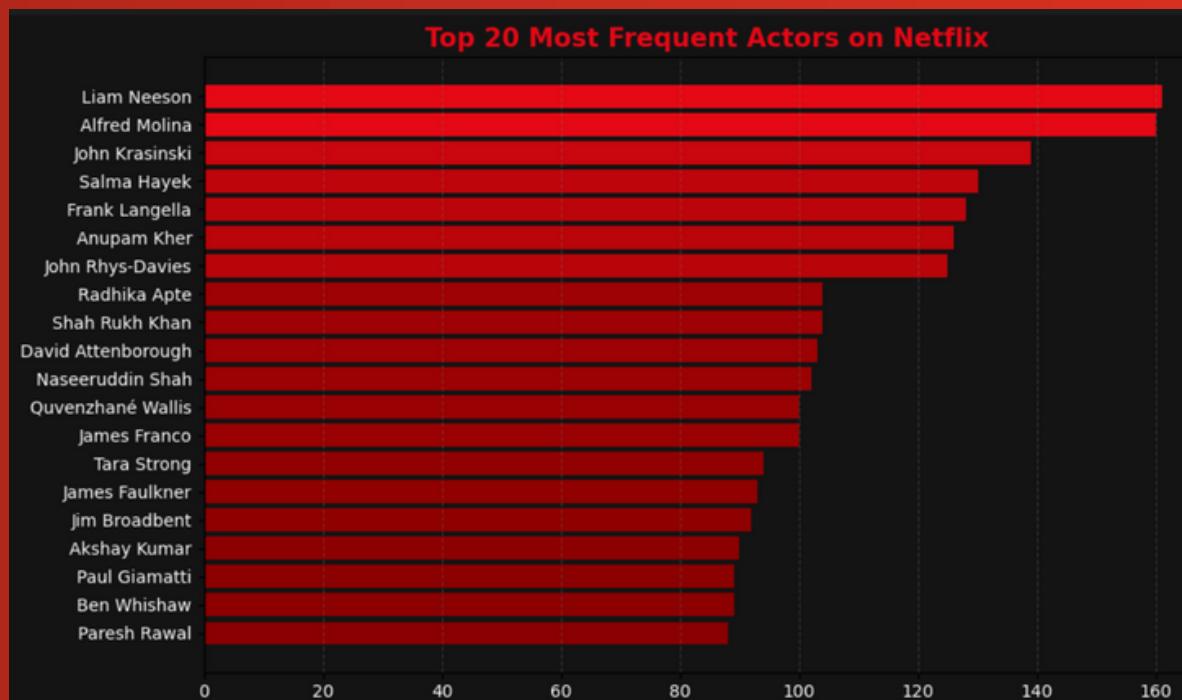
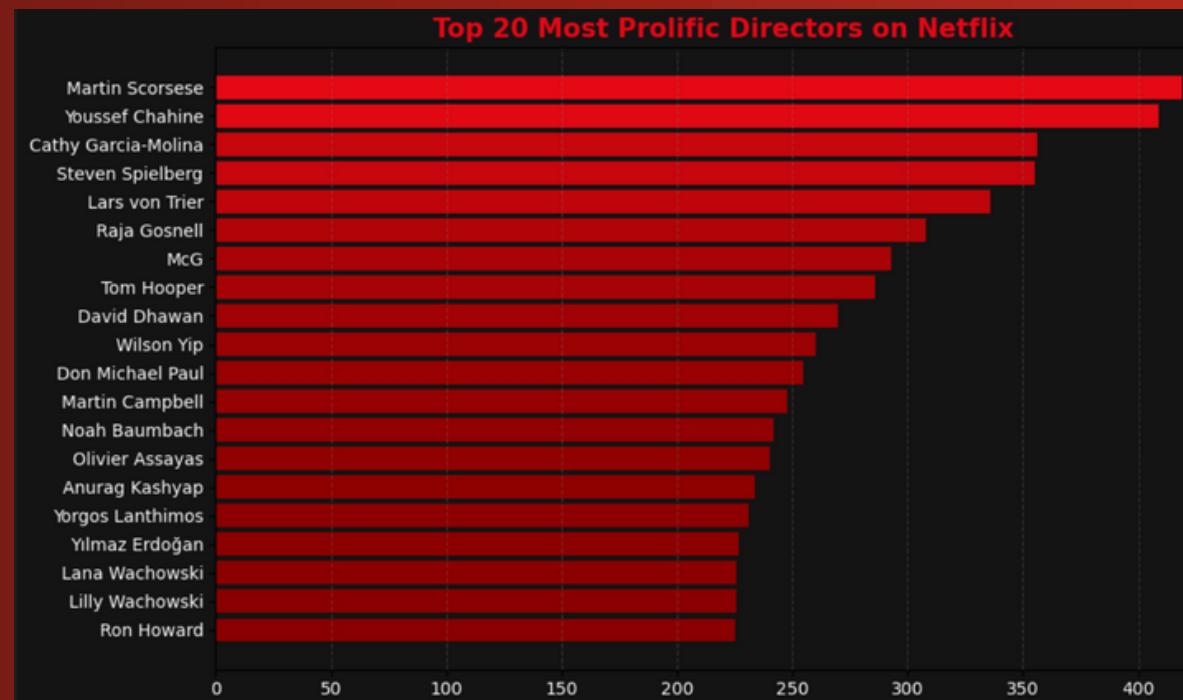
- TV genre clusters reflect cultural & linguistic communities (e.g., K-Drama cluster, Latin Romance cluster).

- Cluster-based recommendations (instead of pure popularity-based) will better capture user taste groups and increase engagement.

- International cluster shows a strong correlation with almost all categories in both movies and TV shows, which indicates the dominance of diverse material available

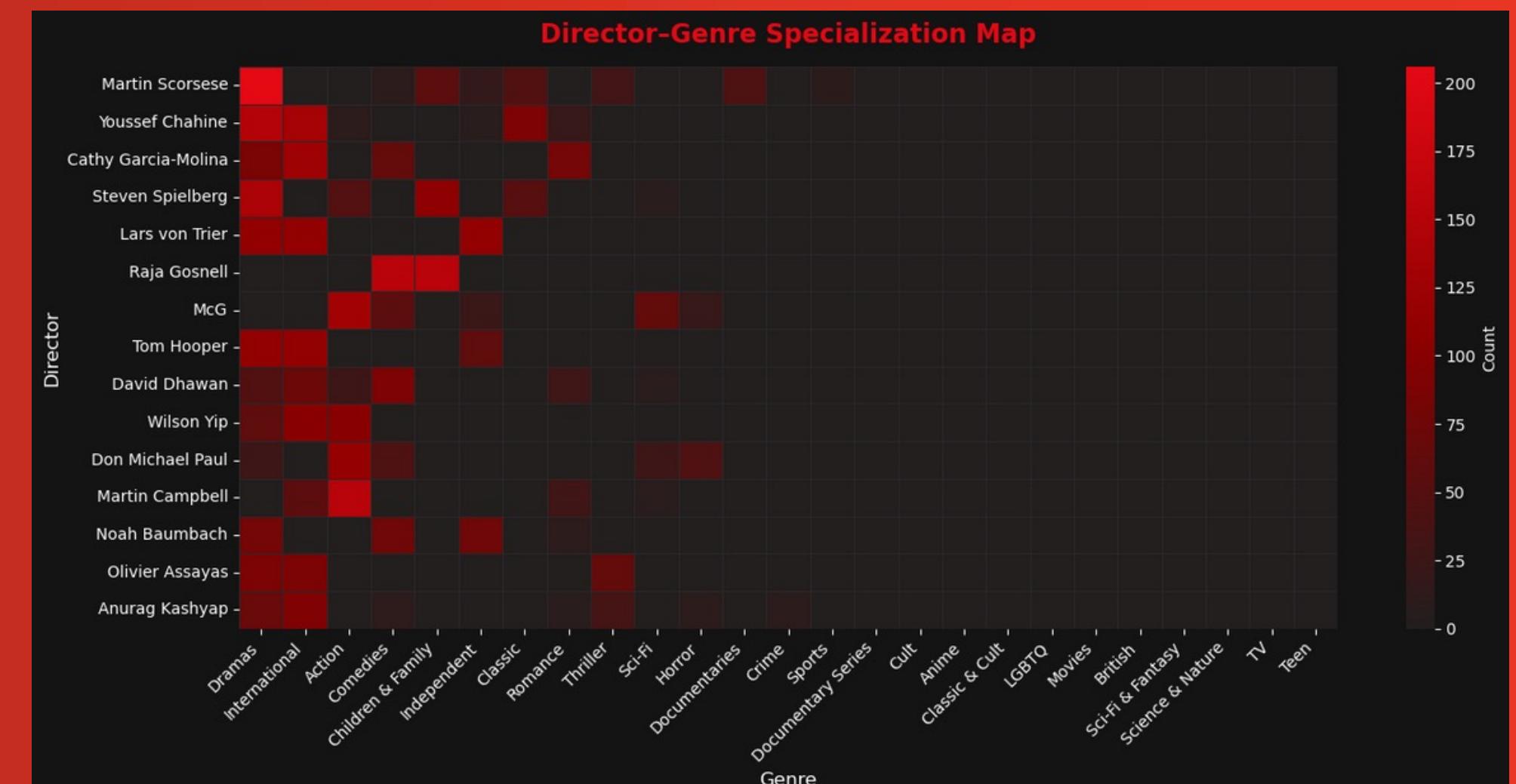


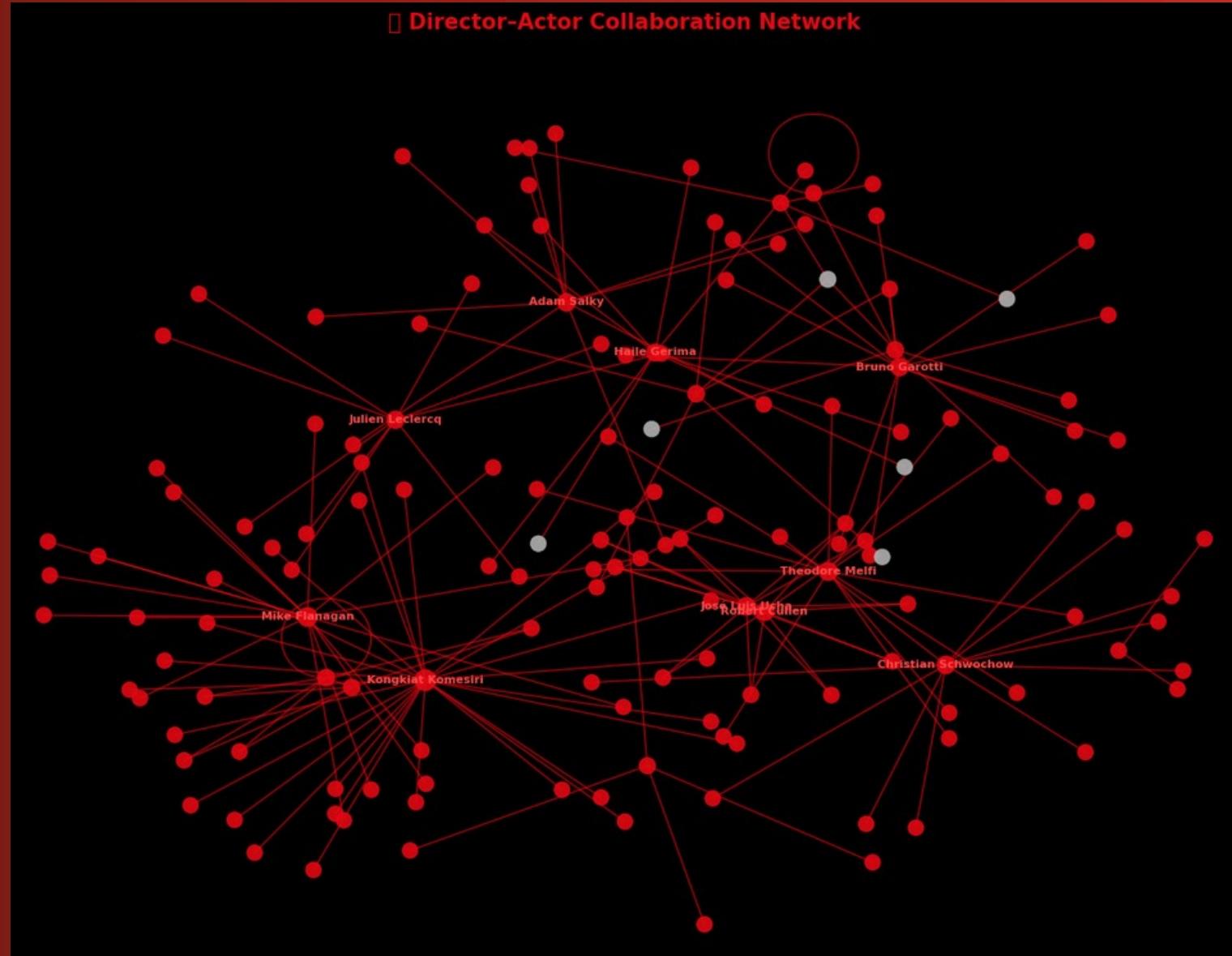
Content Creators



The chart shows that directors like Martin Scorsese, Youssef Chahine, and Cathy Garcia-Molina, along with actors such as Liam Neeson, Alfred Molina, and John Krasinski, dominate Netflix's catalog—highlighting global diversity but with production concentrated among a few top names.

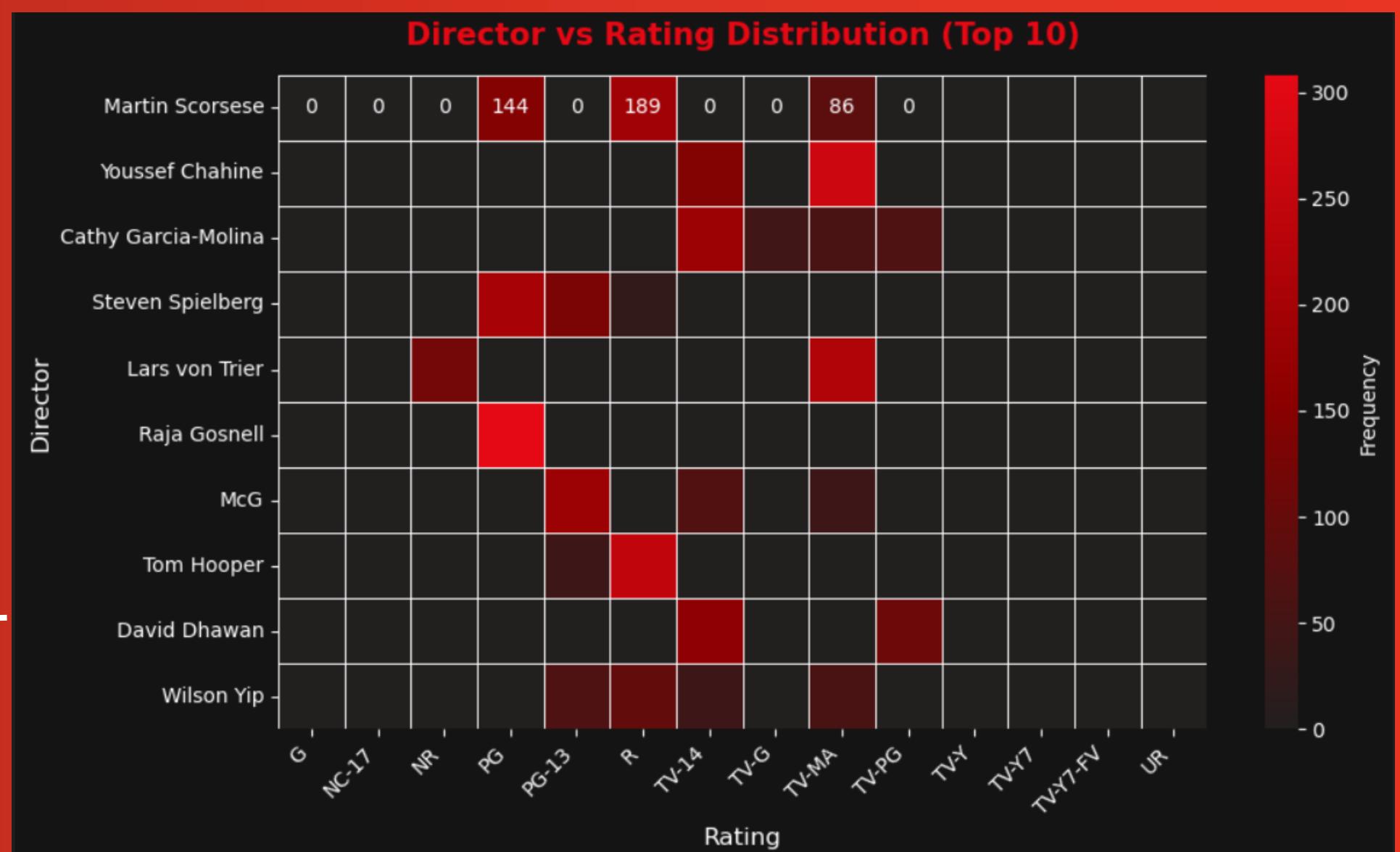
The heatmap reveals strong genre specialisation among directors. Martin Scorsese, Steven Spielberg, and Tom Hooper focus on dramas and classics, while Wilson Yip and Martin Campbell lean toward action films. Regional diversity stands out, with Anurag Kashyap leading the way in international cinema and David Dhawan excelling in comedy. Overall, the sparse genre overlap shows that most directors maintain distinct creative niches within Netflix's global catalogue.



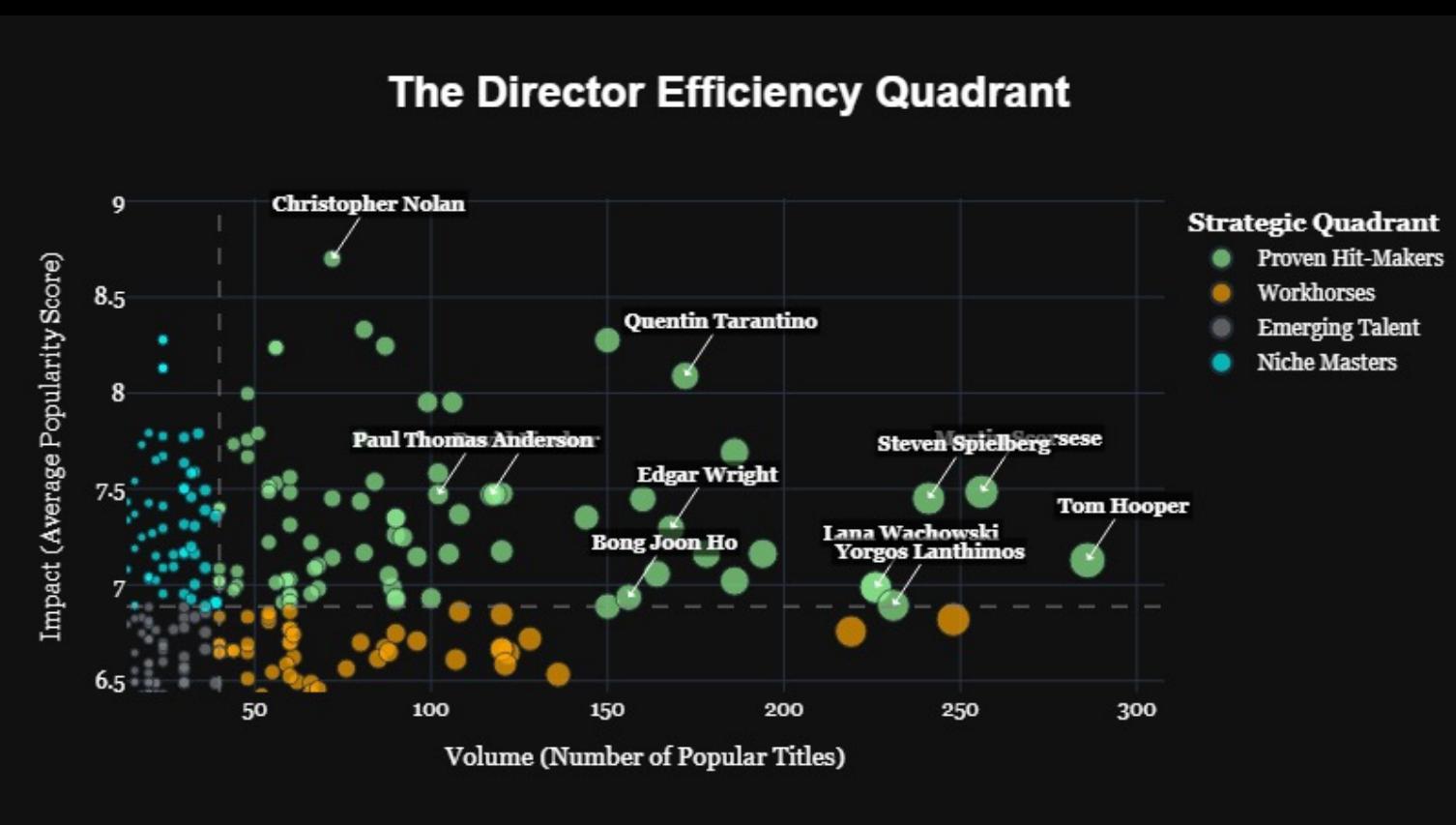


With $\chi^2 = 1,625,896.81$ (df = 64,896), H_0 is rejected, indicating a strong association between directors and rating categories. The heatmap shows that directors like Martin Scorsese and Steven Spielberg primarily produce PG-13 and R-rated content, reflecting a preference for mature themes compared to others, who have more varied rating distributions.

The collaboration network shows clusters where directors like Mike Flanagan, Julien Leclercq, and Theodore Melfi frequently work with recurring actors, forming strong creative bonds and consistent styles. Cross-links reveal actors bridging genres and regions, highlighting Netflix's role in fostering global collaboration and creative diversity.



Recommendation Insights

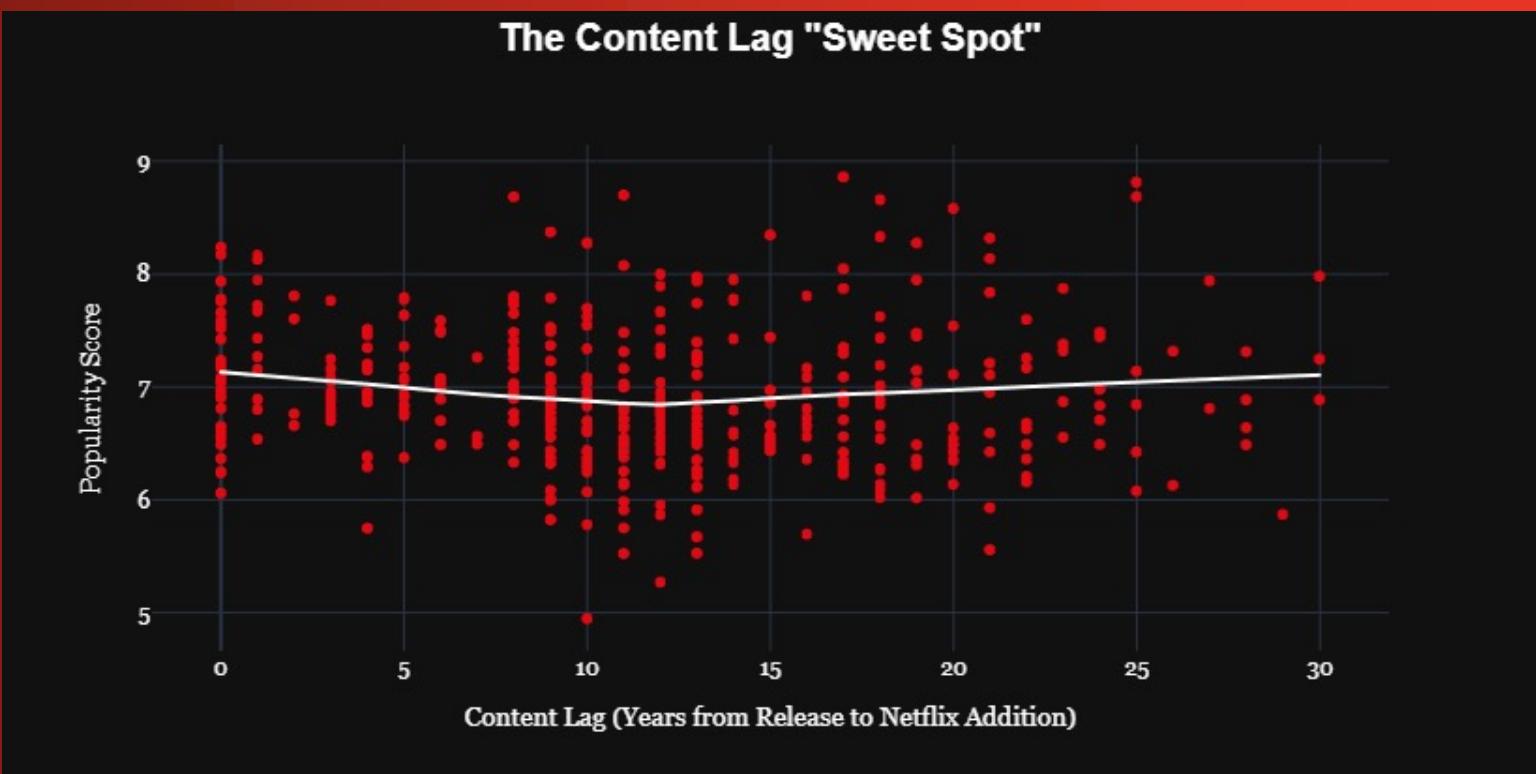


- Reveals that star power is genre-specific, not universal.
- Identifies the perfect actor for a given genre by mapping their average popularity.
- Recommendation: De-risk production with data-driven precision casting to maximize a title's appeal.

- Segments directors into four types: Hit-Makers, Niche Masters, Workhorses, and Emerging Talent.
- Identifies elite talent (e.g., Spielberg) who deliver both high volume and high impact.
- Recommendation: Tailor talent investment—secure Hit-Makers, empower Niche Masters, and leverage Workhorses.

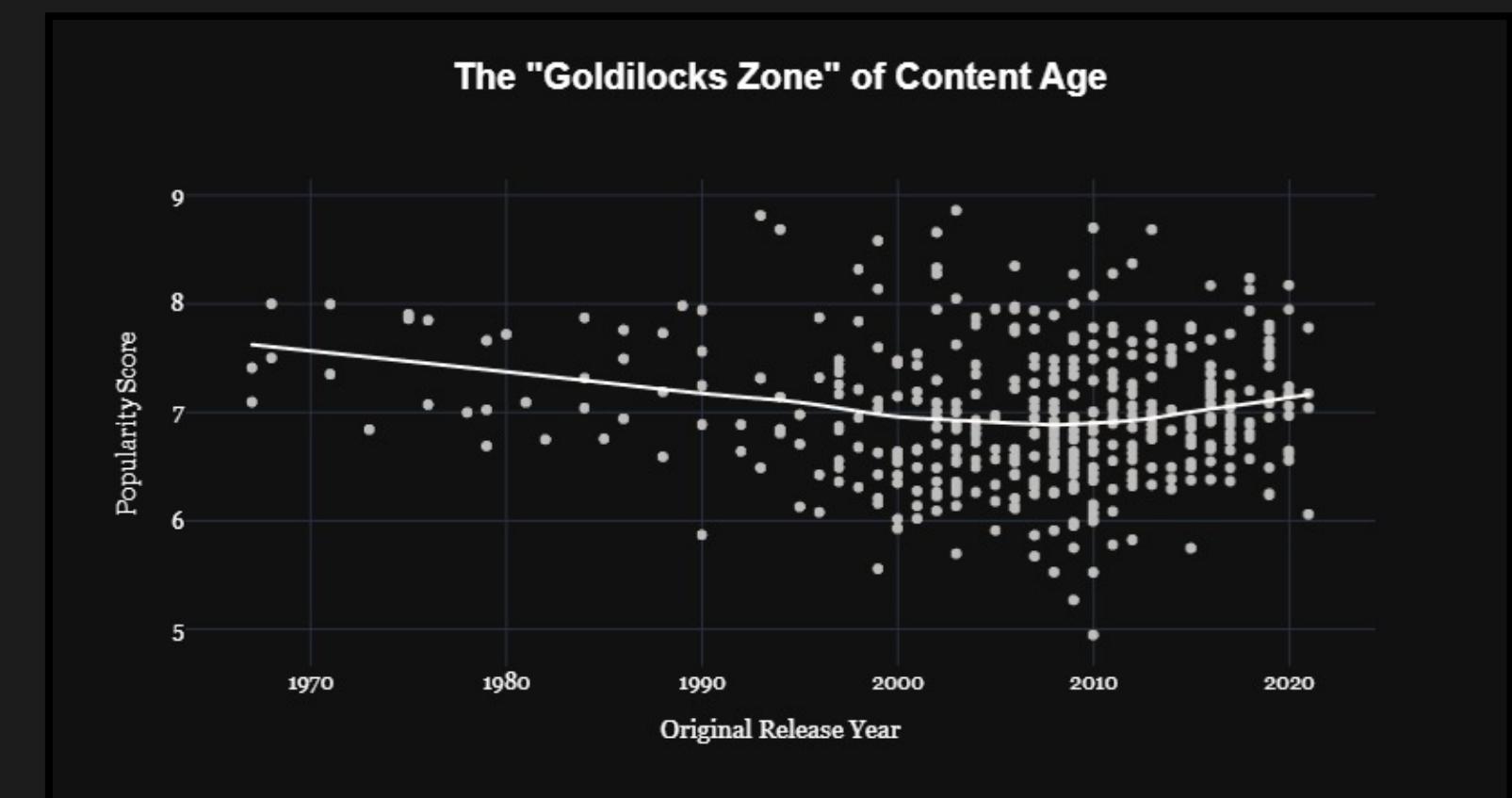


Recommendation Insights

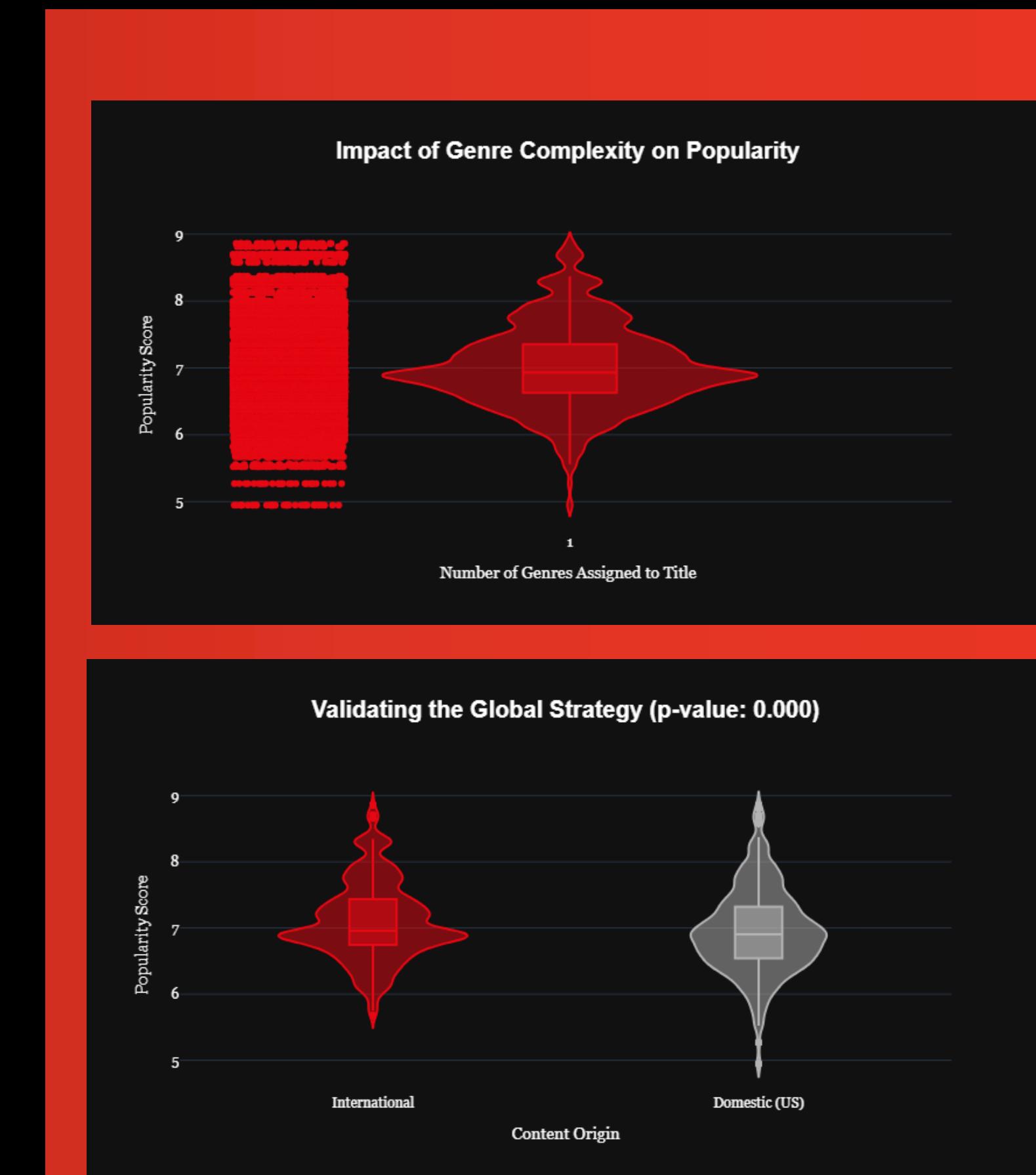
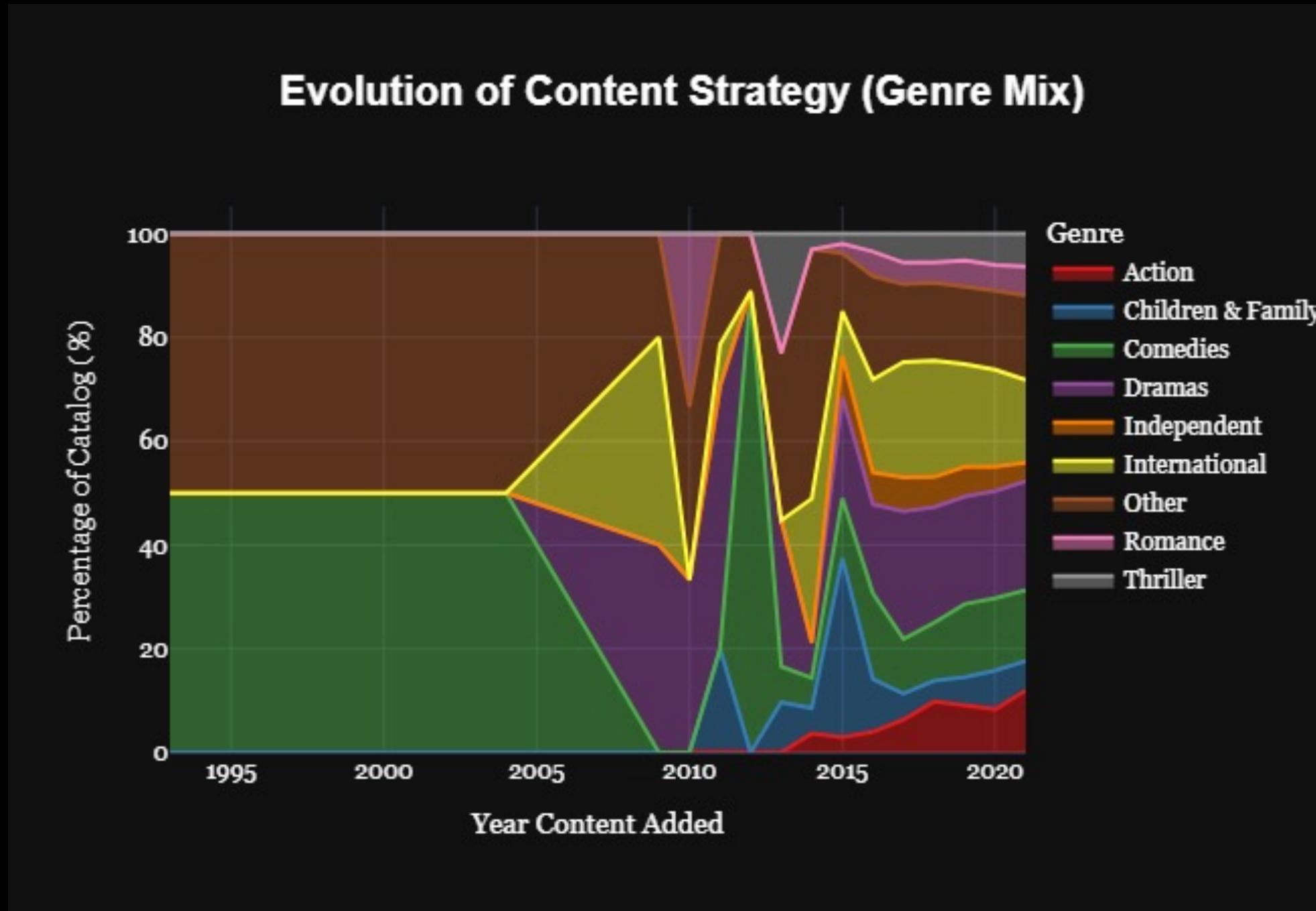


- Proves that "newest" is not always best; popularity peaks for modern Hits and timeless Classics.
- Identifies a "Nostalgia Valley" where content from the 1990s-2000s has lower average popularity.
- Recommendation: Focus acquisition on a "barbell" strategy: produce new Originals and license iconic Classics.

- Analyzes the impact of "freshness" on a title's success.
- Identifies a clear "Sweet Spot": content acquired within 0-5 years of release is the most popular.
- Recommendation: Prioritize the licensing budget on high-quality, culturally relevant content shortly after its debut.



Other Advanced Insights



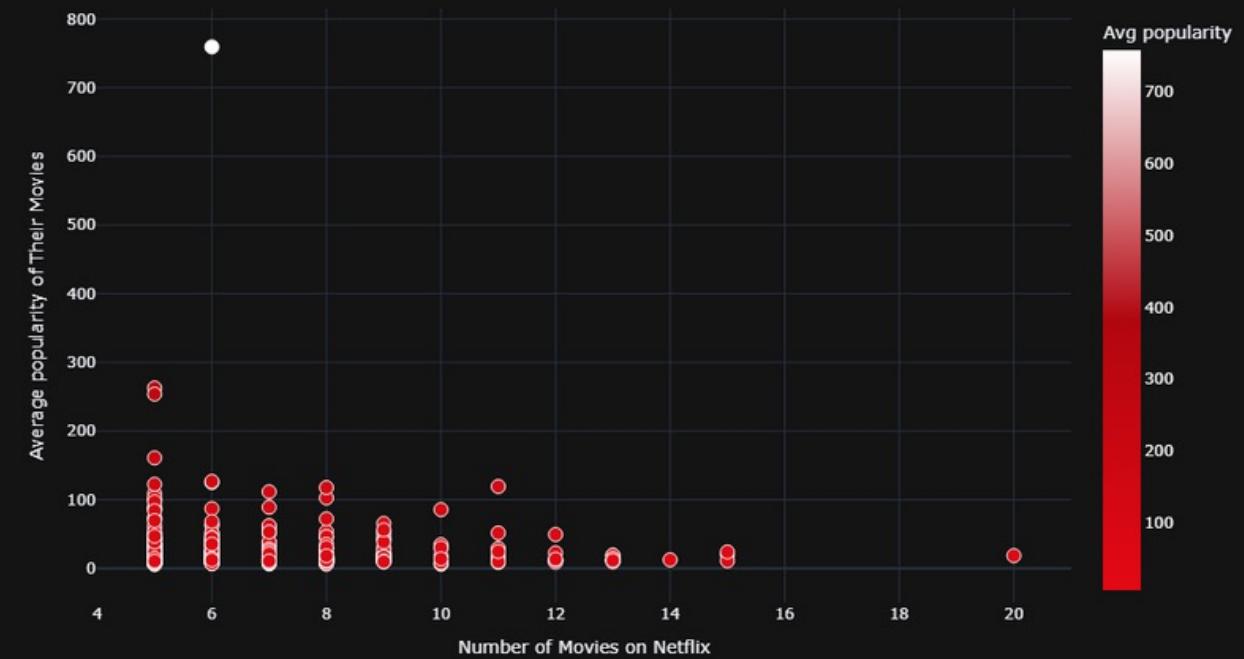
Gap Analysis for Movie Directors

Objective

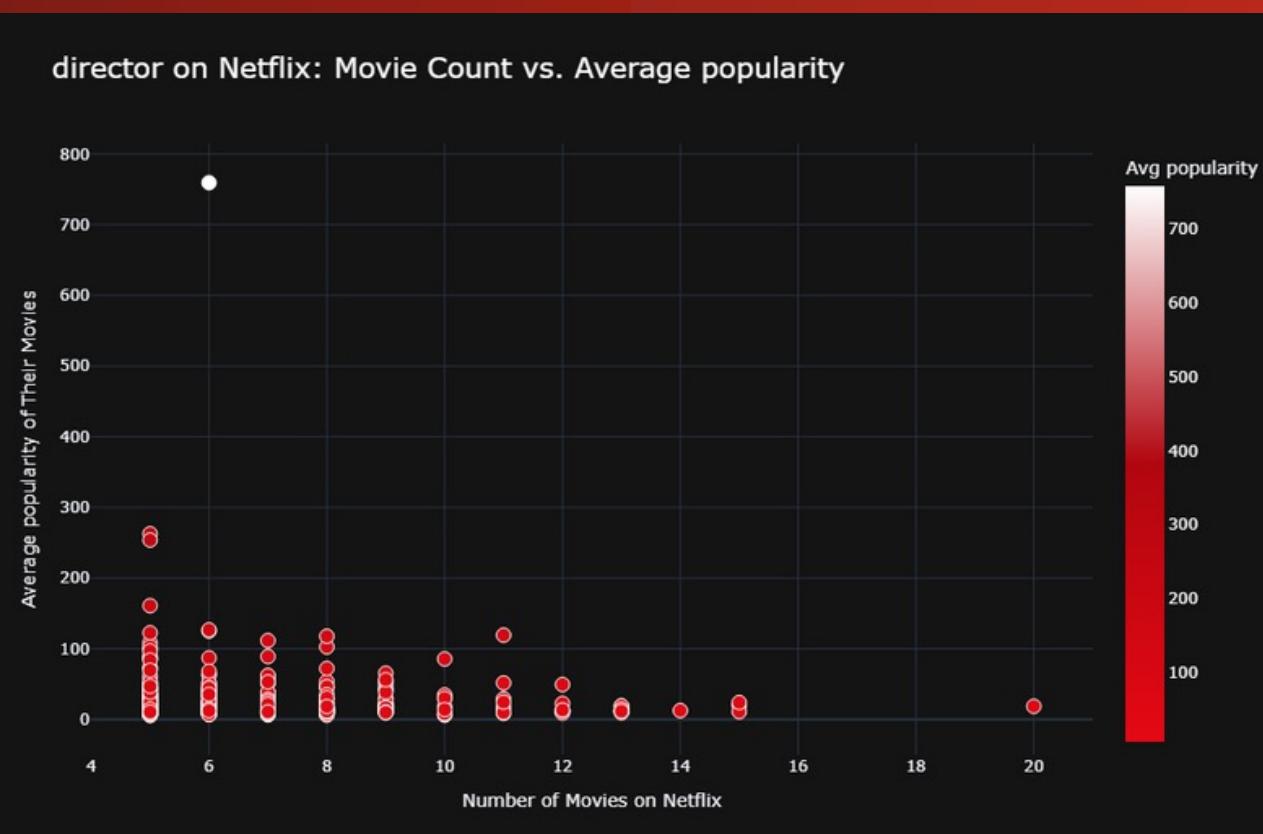
To find directors with at least 5 movies (to avoid overestimation due to noise) whose average movie rating or popularity is high but has very few movies on the Netflix Platform

We aim to identify potential money making movies based on their directors.

director on Netflix: Movie Count vs. Average popularity



director on Netflix: Movie Count vs. Average popularity



Observations

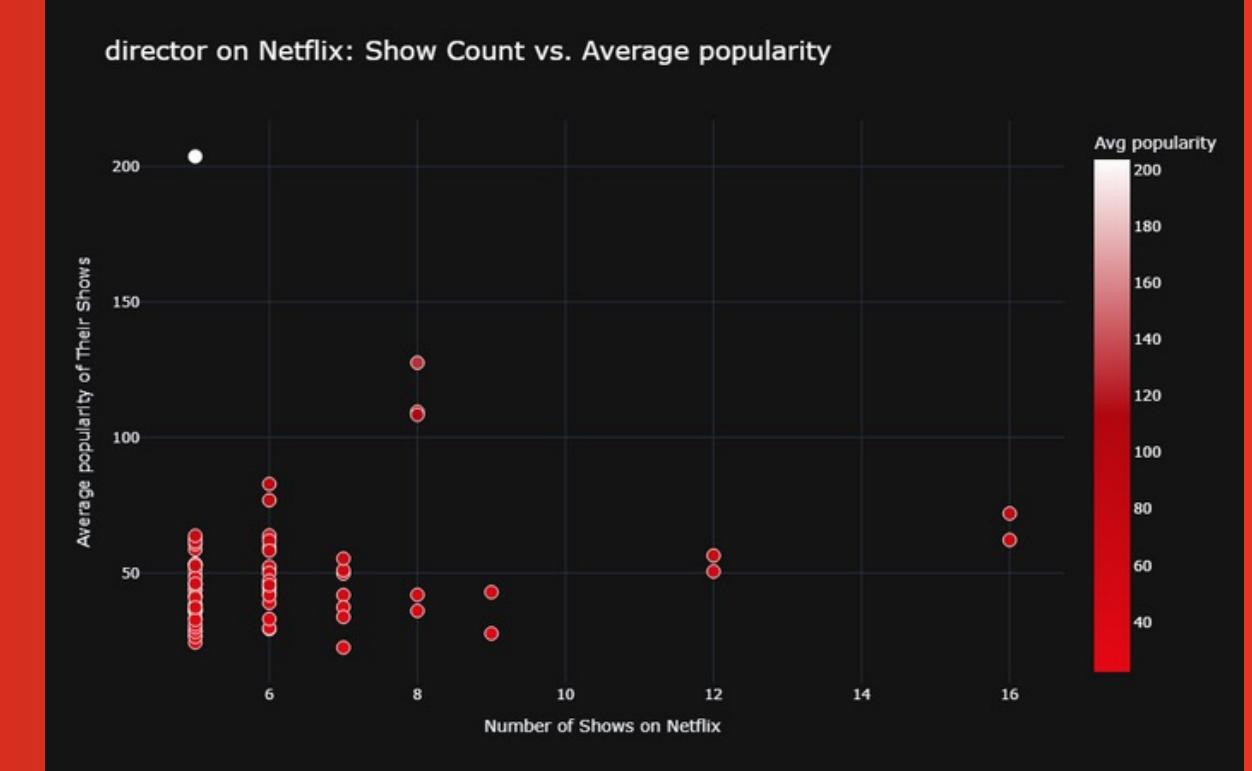
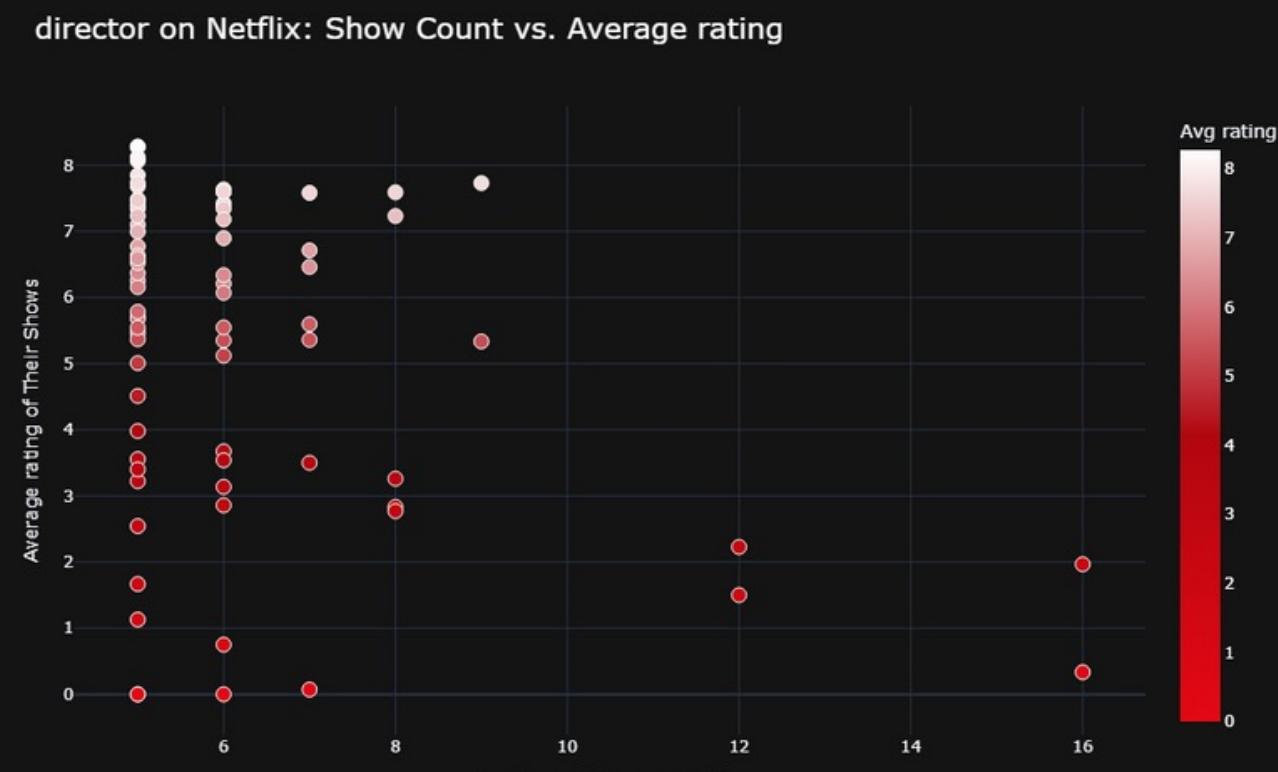
J. C. Chandor and Sean Baker have high average popularity scores on their movies but both of them only have 5 movies on the Netflix platform.

Similarly, based on average ratings of movies, many directors (notebook has details) have only 5 movies on Netflix but they have good average ratings.

Gap Analysis for TV Show Directors

Objective

Similar to the gap analysis performed on movies, we aim to find the directors with at least 5 TV shows whose average popularity score or rating is high but has very few number of movies on the Netflix platform.



Observations

Yan Ji has a very high average popularity score of 203.74 but there are only 5 movies directed by him available on Netflix.

Similarly, based on average ratings of movies, there are four directors with an average movie rating of 8+ (notebook has details) but has only 5 movies on Netflix.

Strategic Recommendations

Insight:-

Ten **emerging production hubs**:
Latvia, Puerto Rico, Estonia, Malta,
United Arab Emirates, Cyprus, South
Africa, Slovakia, Greece, Croatia.

Action :-

Prioritize acquisitions in these regions
to lift engagement and catalog diversity.

Insight:-

Top movie genres:-
Adventure, Science Fiction, Action.
Top tv genres:- Adventure, Science
Fiction, Action.

Action :-

Double down on these genres (licenses
+ co-pros) to lift viewership and
revenue.

Strategic Recommendations

Insight:-

Netflix's slate skews adult (**>40% R, ~30% PG-13**) while family co-viewing is strong in India/SEA/LATAM and rivals (e.g., Disney+) dominate family—creating churn risk for households.

Action :-

Rebalance toward **PG/PG-13** family content—license/co-produce localized titles and feature them in dedicated family rows to reduce churn.

Insight:-

Netflix has been acquiring a lot of movies and TV shows of the less popular genres like drama, comedy and thrillers from movies and drama comedy and action from TV shows.

Action :-

Netflix should reallocate their resources into acquiring the more popular genres such as adventure, fantasy and action for movies and soap, news and talk for TV shows

Strategic Recommendations

Insight:-

From gap analysis performed for directors, we observed that J. C. Chandor and Sean Baker for movies and Yan Ji for TV shows had very high popularity scores on average but each had only 5 of their movies available on Netflix.

Action :-

Invest resources into acquiring more movies directed by J. C. Chandor and Sean Baker and TV shows directed by Yan Ji since views are directly related to popularity and profits for Netflix are directly related to views.

Data Analysis Methodology

Overview of our data collection and processing techniques

1. Data sourcing: Downloaded Netflix dataset from Kaggle.
2. Prep & viz: Cleaned in Python (pandas); visualized with Plotly/Matplotlib.
3. Sentiment: Applied VADER on title descriptions; extracted genre/country insights.
4. Validation: Ran F-tests/ANOVA and LSD post-hoc to confirm differences.

5. Delivery: Built an interactive Streamlit dashboard

Executive Overview

High-level KPIs based on unique titles.

Total Titles 8,807 Unique show_id	Movies / TV 6131 / 2676	Growth vs LY -20.2% based on year_added	Countries 123 content breadth
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Catalog Composition

Movies vs TV Shows

A pie chart titled 'Movies vs TV Shows' showing the percentage distribution of titles. The chart has two segments: a large red segment labeled '30.4%' and a smaller black segment labeled '69.6%'. A legend indicates that red represents 'Movie' and black represents 'TV Show'.

Top Categories (unique titles)

A horizontal bar chart titled 'Top Categories (unique titles)' showing the count of unique titles for various genres. The categories listed on the y-axis are International, Dramas, Comedies, Documentaries, Children & Family, Action, Romance, Independent, Thriller, and Crime. The x-axis is labeled 'title_count' and ranges from 0 to 4000. The bars are colored in shades of red and dark red.

Content Explorer

Search & export unique titles.

Search title / director / cast / desc

Sort by: title (Ascending)

show_id	title	type	country	year_added	release_year	rating	listed_in	director
0	#Alive	Movie	South Korea	2,2020	2,2020	TV-MA	International	Choi Il
1	#AnneFrank - Parallel Stories	Movie	Italy	2,2020	2,2019	TV-14	International	Anna
2	#FriendButMarried	Movie	Indonesia	2,2020	2,2018	TV-G	International	Rako I
3	#FriendButMarried 2	Movie	Indonesia	2,2020	2,2020	TV-G	Romance	Rako I
4	#Roxy	Movie	Canada	2,2019	2,2018	TV-14	Romance	Michael
5	#Rucker50	Movie	United States	2,2016	2,2016	TV-PG	Documentaries	Robert
6	#Selfie	Movie	Romania	2,2021	2,2014	TV-MA	International	Cristin
7	#Selfie 69	Movie	Romania	2,2021	2,2016	TV-MA	Comedies	Cristin
8	#blackAF	TV Show	United States	2,2020	2,2020	TV-MA	Comedies	Unknown
9	#cats_the_mewvie	Movie	Canada	2,2020	2,2020	TV-14	Documentaries	Michael
10	#realityhigh	Movie	United States	2,2017	2,2017	TV-14	Comedies	Fernan
11	'76	Movie	Nigeria	2,2021	2,2016	TV-PG	International	Izu Oj

Thank You