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Jnana Sangama, Belagavi



PROJECT REPORT

“Netfilix Dashboard Report”

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By

Suraj .G

1GA22AI053

Under the guidance of

Prasanna N

Assistant Professor, Dept. of AI & ML
Global Academy of Technology, Bangalore



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DEPARTMENT OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Global Academy of Technology

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Introduction

The Netflix Dashboard provides a comprehensive, visually interactive analysis of Netflix's global content library, offering key insights into its movies and TV shows from 1925 to 2021. The dashboard highlights essential metrics such as the total number of titles (8803), number of ratings, genres, and locations, giving a quick overview of the platform's vast and diverse catalog. Through detailed visualizations, users can explore the distribution of content across genres, the balance between movies and TV shows, and the rating categories that define audience suitability. The dashboard also showcases Netflix's international reach by displaying the top contributing countries, with the United States, India, and the United Kingdom leading the list. Additionally, a historical trend chart reveals how Netflix's content production and acquisitions have significantly increased over the past decade, especially after 2015. Overall, this dashboard serves as an effective analytical tool that helps users understand Netflix's content strategy, global expansion, and the evolution of its entertainment offerings over time.

One of the dashboard's major components is the representation of content distribution across genres. The bar chart showcasing "Genres by Total Titles" allows users to identify which genres dominate the platform. Categories such as Drama, Documentaries, Stand-Up Comedy, and Kids' TV emerge as the most prevalent, emphasizing Netflix's focus on diverse storytelling formats intended for different audience groups. These genre insights provide valuable information for understanding viewer preferences and Netflix's targeted content strategy.

Another key visualization is the donut chart comparing the number of Movies and TV Shows. The data clearly indicates that movies (over 6,000 titles) significantly outnumber TV shows (around 2,600 titles), offering a balanced perspective on Netflix's content mix. This comparison helps users understand the platform's historical focus and the shift in content production trends, especially as TV shows have become more prominent in recent years.

The dashboard also includes a detailed breakdown of content ratings, such as PG-13, TV-MA, TV-Y, and others. This visualization helps users identify the age groups that Netflix targets the most, revealing its efforts to cater to both younger and mature audiences. By illustrating the proportion of titles in each rating category, the dashboard effectively communicates Netflix's focus on content suitability and viewer segmentation.

A significant part of the analysis focuses on Netflix's international reach, represented through a Treemap displaying the Top 10 producing countries. The United States leads by a large margin, followed by countries such as India, the United Kingdom, Japan, and several others. This global distribution highlights Netflix's strong international partnerships and growing investment in regional content production, which has become one of the company's major competitive strategies.

Finally, the line chart at the bottom of the dashboard reveals the historical growth of Netflix's content releases. The trend shows a slow increase in early decades, followed by a dramatic surge after 2015—coinciding with the rise of Netflix Originals and the platform's global expansion. This visualization makes it clear that Netflix has rapidly scaled its content library, transitioning from a streaming service of licensed shows to a major global production powerhouse.

Overall, the Netflix Dashboard serves as an insightful analytical platform that brings together multiple dimensions of Netflix's content landscape. It helps users—whether analysts, students, researchers, or media professionals—gain a deeper understanding of how Netflix's catalog has evolved, how content is distributed across genres and countries, and how the platform has expanded its global footprint over nearly a century. Through clear visualizations and structured metrics, the dashboard provides a meaningful perspective on Netflix's content strategy, diversity, and long-term growth patterns.

Key Features

The Netflix Dashboard incorporates several powerful features that together offer a complete analytical view of Netflix's growing content library. One of the most significant features is the Genre Distribution Analysis, represented through a horizontal bar chart titled "*Genres by Total Titles*". This visualization helps users quickly identify the most dominant genres on the platform, such as Drama, Documentaries, Stand-Up Comedy, Kids' TV, and various international genres. By highlighting which categories have the highest number of titles, the dashboard reveals Netflix's focus on building a diverse content portfolio that appeals to a wide range of audiences across different age groups and cultural backgrounds. This feature is especially useful for understanding viewer trends and identifying the types of content that Netflix prioritizes in its global catalog.

Another essential feature is the Movies vs. TV Shows Comparison, displayed through a clean and interactive donut chart. This chart clearly shows that Netflix hosts significantly more movies—over 6,000—when compared to approximately 2,600 TV shows. The visualization not only helps users understand the overall content composition but also sheds light on Netflix's strategic shifts in content production. Historically more movie-heavy, the platform has increasingly invested in TV series and original episodic content in the past decade. This comparison provides insights into user engagement patterns, as well as Netflix's evolving production priorities.

The dashboard also features a Content Rating Breakdown, which categorizes titles based on rating classifications such as PG-13, TV-MA, TV-Y, and more. This helps users understand Netflix's target demographics and the balance it maintains between family-friendly content and material suitable for mature audiences. By displaying the proportion of titles within each rating group, the dashboard highlights Netflix's strategy in providing inclusive entertainment options while maintaining strong controls around age-appropriate viewing.

A particularly valuable and visually engaging feature is the Geographical Distribution Analysis, showcased through a Treemap highlighting the *Top 10 Countries Producing Content on Netflix*. The United States dominates the landscape, followed by India, the United Kingdom, Japan, Canada, and several other countries. This feature underscores Netflix's global expansion and its efforts to diversify content through partnerships with international production houses. It reveals how Netflix has broadened its global footprint by investing heavily in regional storytelling and culturally specific content, which has become a major driver of the platform's worldwide success.

The dashboard concludes with a powerful visualization: the Historical Release Trend Chart, which traces the number of movies and TV shows released each year from 1925 to 2021. The graph shows a gradual increase in content during the early decades, followed by a sharp rise after 2015. This spike coincides with the launch of Netflix Originals and the company's aggressive global expansion strategy. The trend clearly demonstrates how Netflix transformed from a streaming service relying on licensed content to one of the world's largest producers of original movies, series, and documentaries.

Together, these features make the Netflix Dashboard an exceptional analytical tool. They offer comprehensive insights into content distribution, rating diversity, genre popularity, geographic contributions, and historical growth trends. Whether used by researchers, data analysts, business strategists, or students, the dashboard provides a deep understanding of Netflix's content strategy, user-focused programming decisions, and multi-year expansion patterns. By combining interactive visuals with clear metrics, the dashboard presents a holistic view of how Netflix continues to evolve as a dominant player in the global entertainment industry.

Procedure

The procedure for creating the Netflix Dashboard begins with data collection from a publicly available Netflix dataset containing detailed information on movies and TV shows released between 1925 and 2021. This dataset typically includes attributes such as title, type, director, cast, country, date added, release year, rating, duration, and listed genres. Once collected, the next step involves data cleaning and preprocessing, which includes removing duplicate records, correcting missing values, standardizing date formats, splitting multiple genres into analyzable fields, and ensuring that all country and rating data are consistent. After cleaning, the dataset is imported into Power BI, where data transformation is further refined using Power Query to create structured and meaningful columns needed for analysis. With the data prepared, the focus shifts to data modeling, where relationships between fields are defined to ensure accurate filtering and cross-interactivity across visuals.

The visualization phase begins with designing Key Performance Indicators (KPIs) to provide an immediate overview of critical metrics such as Total Titles, Total Genres, Total Ratings, and total contributing countries. These KPIs are created using card visuals to give users an instant snapshot of Netflix's content scale. Next, a bar chart is created to represent "Genres by Total Titles," helping users identify which genres dominate the platform. This requires grouping and counting genre occurrences and sorting them in descending order to highlight the top-performing categories. The donut chart comparing Movies versus TV Shows is then built by categorizing titles based on type, allowing viewers to clearly understand Netflix's content mix. A bar chart for content ratings is also designed to show the distribution of titles across rating categories such as TV-MA, PG-13, TV-Y, and others, offering insights into viewer segmentation and content suitability.

To capture Netflix's global reach, a Treemap visualization representing the Top 10 countries contributing the most content is constructed. This involves grouping titles by country and selecting the highest contributors to show Netflix's regional production strengths. Additionally, a line chart illustrating the annual release trend of movies and TV shows from 1925 to 2021 is created to highlight Netflix's exponential growth—particularly after 2015, when Netflix Originals expanded rapidly. Once all visuals are developed, the dashboard layout is refined using an appropriate color theme, in this case, Netflix's signature red and black for brand consistency and aesthetic appeal. Interactive features such as slicers for year, country, or type are added to enhance user exploration and dynamic filtering.

Finally, the complete dashboard undergoes validation and testing, ensuring that each visualization responds correctly to filters and that all data relationships work as intended. The finished Netflix Dashboard offers a cohesive analytical environment where users can explore content distribution across genres, evaluate the balance between movies and TV shows, analyze viewer-targeted content ratings, understand geographic production contributions, and observe historical trends in releases. This well-structured procedure ensures that the dashboard is accurate, visually appealing, and highly useful for analysts, researchers, and entertainment strategists studying Netflix's content footprint.

Technology Stack

The technology stack used to develop the Netflix Dashboard integrates a combination of data management, analytics, visualization, and transformation tools, each playing a crucial role in building a functional and insightful business intelligence solution. At the foundation of the project is Microsoft Power BI, which serves as the primary platform for data visualization and dashboard creation. Power BI provides the interactive interface, visualization library, DAX (Data Analysis Expressions) engine, and user-friendly drag-and-drop environment needed to design charts, KPIs, and analytical models. Before visualizations are built, the dataset undergoes extensive cleaning and transformation using Power Query, a powerful data preparation engine embedded within Power BI. Power Query enables tasks such as removing duplicates, handling missing values, formatting date fields, splitting genre lists, merging or appending datasets, and creating calculated columns necessary for accurate visual representation. This allows the dataset to be structured in a way that supports efficient filtering, slicing, and multi-visual interactions.

In addition to Power Query's transformation capabilities, DAX (Data Analysis Expressions) plays a key role in creating custom measures, aggregated values, and dynamic calculations used in visuals such as Total Titles, Year-based counts, rating distributions, and country-wise totals. DAX allows developers to implement logic such as filtering, grouping, time intelligence, ranking, and conditional aggregation, which enhances the analytical depth of the dashboard. Supporting tools like Excel are often used in the early stages for initial data exploration, validation, and manual cleaning when required. Excel enables quick inspection of raw fields such as country, director, cast, and rating categories, helping ensure data consistency before import into Power BI. In some cases, scripting languages such as Python or R can also be integrated directly within Power BI for advanced preprocessing, statistical analysis, or automated transformations, although this depends on the complexity and needs of the project.

The dataset itself is retrieved from a publicly available source such as Kaggle, where Netflix's movie and TV show metadata is shared in CSV format. This data format is lightweight, easy to process, and compatible with Power BI, enabling smooth import and modeling. Once loaded, Power BI's data modeling engine establishes relationships between tables, ensuring that visuals update accurately when users apply filters or slicers. This relational model allows seamless interaction across multiple visual elements such as bar charts, donut charts, maps, treemaps, and line graphs. To enhance the dashboard's visual appearance and usability, Power BI's built-in themes, formatting options, and color palettes—specifically Netflix's signature red, black, and white tones—are used to create a clean, modern, and professional interface that aligns with real-world brand aesthetics.

Finally, the dashboard benefits from Power BI's publishing and sharing capabilities, which allow the final report to be published to the Power BI Service. This makes it accessible to users across devices, enabling features like role-based access, cloud storage, auto-refresh (if connected to live data sources), and embedding options for websites or corporate portals. Together, this technology stack forms a robust eco-system capable of managing raw data, transforming it into meaningful insights, and presenting it through compelling visual narratives. By leveraging Power BI, Power Query, DAX, and structured datasets, the Netflix Dashboard becomes a powerful tool for understanding content trends, genre distribution, production geography, release patterns, and Netflix's strategic evolution over time.

Results

The results derived from the Netflix Dashboard present a comprehensive and data-driven understanding of Netflix's content library, showcasing key patterns and trends that define the platform's growth and strategic direction. One of the most significant findings is the dominance of specific genres, with Drama, Documentaries, Stand-Up Comedy, and Kids' TV emerging as the most prevalent categories. This indicates Netflix's commitment to producing and hosting diverse content that appeals to a wide range of demographics, from children to adults, and from casual viewers to documentary enthusiasts. The genre insights also reveal Netflix's effort to balance entertainment with educational and informative content, demonstrating an adaptive strategy that aligns with evolving viewer interests across the globe.

Another major result observed through the dashboard is the imbalance between movies and TV shows, with movies totaling more than 6,000 titles compared to approximately 2,600 TV shows. This highlights Netflix's historical focus on movie licensing while also reflecting the more recent surge in TV series and original episodic content. Despite movies dominating in count, the rapid rise of TV shows in the last decade signifies a strategic shift toward long-form storytelling, which has proven effective in increasing user engagement and retention.

The content rating distribution provides further insight into the type of audiences Netflix caters to. Ratings such as TV-MA and TV-14 form a substantial portion of the catalog, indicating a strong emphasis on mature and teen audiences. At the same time, categories like TV-Y and PG showcase Netflix's effort to maintain a balanced library suitable for families and young viewers. This mix of ratings underscores Netflix's approach to inclusivity, ensuring that its offerings accommodate multiple age groups and cultural sensitivities.

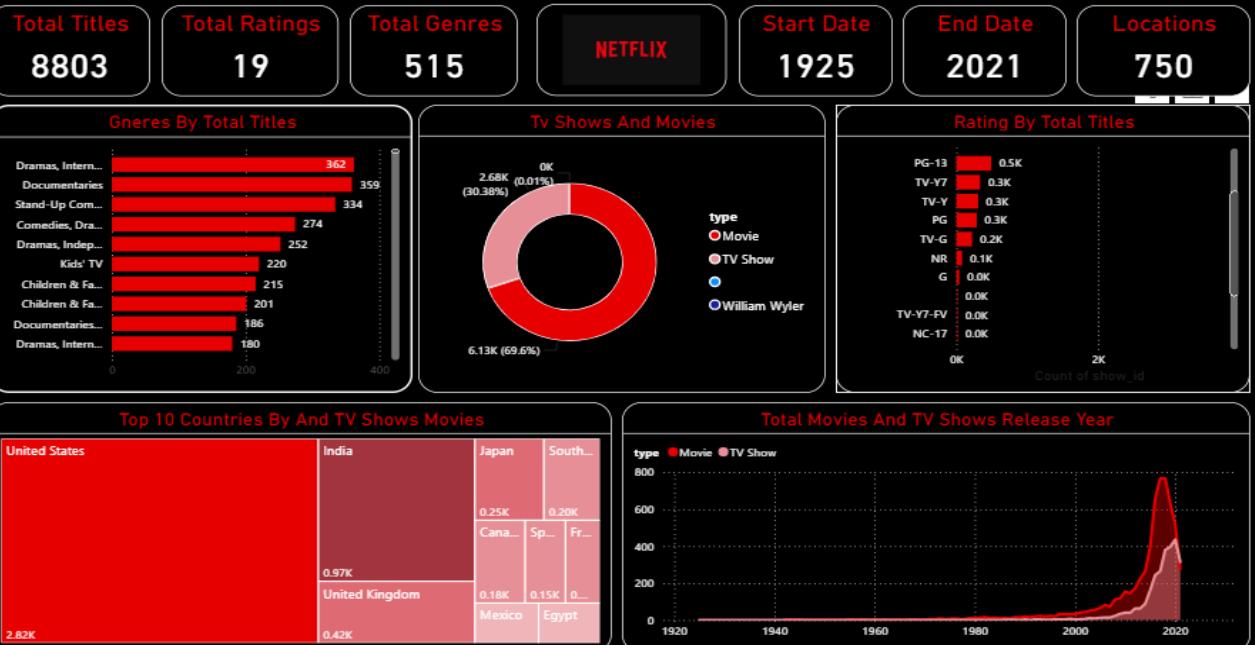
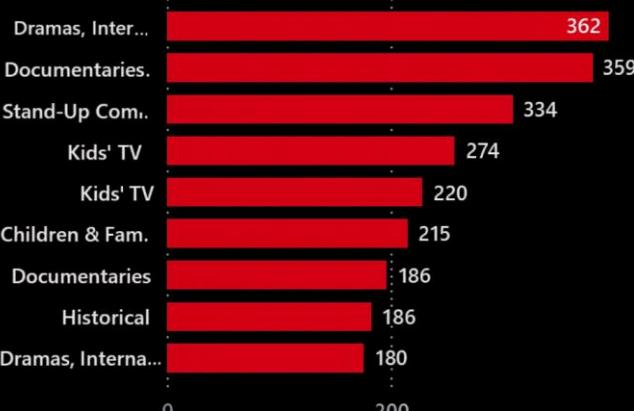
Results from the Top 10 content-producing countries highlight Netflix's global footprint, with the United States dominating the catalog, contributing the largest share of titles. India, the United Kingdom, Japan, and Canada also appear as notable contributors, demonstrating Netflix's investment in international collaborations and regional storytelling. This global distribution reflects Netflix's strategic expansion into non-Western markets, diversifying its content base, and catering to audiences from different cultural backgrounds. Such internationalization has been a major driver of Netflix's worldwide growth and subscriber satisfaction.

The release trend analysis from 1925 to 2021 provides one of the clearest indicators of Netflix's evolution. The data shows minimal content in the early decades, followed by a steady increase, and then a dramatic spike after 2015. This surge aligns with the launch and rapid expansion of Netflix Originals, marking the company's transition from a streaming service reliant on licensed content to a global media production powerhouse. The sharp rise in content output during the past decade showcases Netflix's aggressive investment in original films and series, signaling a major shift in how the platform builds its competitive advantage.

Overall, the results presented in the Netflix Dashboard paint a clear picture of how Netflix has grown into a dominant force in the entertainment industry. The dashboard demonstrates Netflix's ability to diversify genres, expand geographically, adapt to viewer preferences, and increase content production at unprecedented rates. These insights help analysts, researchers, and business stakeholders understand not only Netflix's current content landscape but also the strategic decisions that have shaped its success over time. Through compelling visualizations and structured metrics, the dashboard effectively communicates Netflix's evolution, strengths, and future potential in the global streaming market.

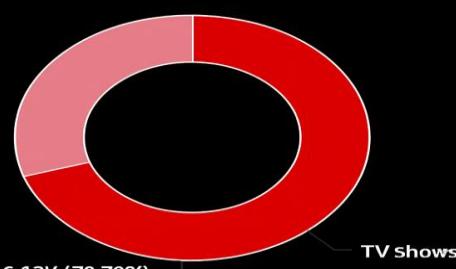
Genres By Total Titles

Drama, Documentaries, Stand-Up Comedy, and Kids' TV are the most represented genres on Netflix, indicating a broad focus on both entertainment and educational content.



Tv Shows And Movies

The data shows that movies significantly outnumber TV shows on Netflix, highlighting a historic focus on feature film content while also reflecting the growing importance of television series.



Conclusion

The analysis of the Netflix dashboard provides a comprehensive understanding of how Netflix has shaped its content strategy across genres, formats, countries, and time. The breakdown of genres highlights that Netflix's library is heavily dominated by Drama, Documentaries, Stand-Up Comedy, and Kids' TV, reflecting the platform's intent to attract a wide audience with varied entertainment and educational content. The genre distribution clearly shows that Netflix prioritizes diversity by offering content for different age groups and preferences, ensuring strong global appeal. The Movies vs TV Shows comparison further reveals an important trend—although movies significantly outnumber TV shows, the presence of more than 2,600 TV shows indicates Netflix's evolving strategy toward series-based storytelling, which encourages longer viewer engagement. This shift aligns with global consumption behavior, where audiences increasingly prefer episodic content over single-title experiences.

The rating distribution exposes Netflix's balanced approach to audience segmentation. The presence of a substantial number of TV-MA and PG-13 titles confirms Netflix's strength in serving mature and teen audiences, while still maintaining a solid base of family-friendly content for younger viewers. This mix helps Netflix sustain a diverse subscriber base by catering to different age brackets and content needs. The geographical distribution, particularly the dominance of the United States alongside strong contributions from India, the United Kingdom, and Japan, emphasizes Netflix's global production network. This reflects Netflix's strategic investment in international markets, which has allowed the platform to expand its cultural footprint and attract new subscribers around the world.

Finally, the historical release trend provides one of the most revealing insights: Netflix's content production and acquisition skyrocketed after 2015, marking the rise of Netflix Originals and the company's aggressive push to dominate the streaming landscape. The sharp increase in annual releases signifies Netflix's shift from primarily licensing content to becoming a global creator and distributor of original movies and TV series. This rapid growth has solidified Netflix's identity as a major entertainment powerhouse rather than just a streaming service.

Overall, the dashboard paints a clear picture of Netflix's evolution—its commitment to content diversity, increasing focus on international collaborations, expansion of original productions, and dynamic adaptation to viewer preferences. The detailed visualizations collectively show how Netflix has strategically positioned itself to remain competitive in a rapidly expanding streaming industry. Through this data-driven analysis, we can conclude that Netflix's success lies in its ability to combine global reach, varied genres, balanced age-oriented content, and consistent innovation in content production, ensuring long-term engagement and continued platform growth.