رواد مصر الرقمية

Analysis of Netflix TV Shows and Movies

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Source of Data

- **Source of Data**: The data for this project is sourced from Kaggle's dataset titled [Netflix Data Cleaning, Analysis, and Visualization](https://www.kaggle.com/datasets/ariyoomotade/netflix-data-cleaning-analysis-and-visualization). This dataset contains information on Netflix titles, including details about the type of content (movie or TV show), country of origin, genre, and release year. It has been cleaned and prepared for analysis, allowing us to explore trends, country preferences, and more. https://www.kaggle.com/datasets/ariyoomotade/netflix-data-cleaning-analysis-and-visualization

Clean Process

1. Loaded the Dataset:
    a. Imported the `pandas` library.
        - Loaded the Netflix dataset from the URL `netflix_titles.csv` into a DataFrame named `netflix_df`.
    b. Displayed the first few rows of the DataFrame using `display(netflix_df.head())`.
2. Transformed the 'country' Column:
    a. Split the 'country' column into separate rows for each country using the `explode` method.
    b. Created a new DataFrame `df_exploded` with the transformed 'country' column.
    c. Displayed the first few rows of the transformed DataFrame using `print(df_exploded.head())`.
    d. (Commented out) Exported the transformed DataFrame to a new CSV file named `netflix_transformed.csv`.
3. Created New Duration Columns:
    a. Added two new columns, 'movie_duration' and 'tv_show_duration', to the `df_exploded` DataFrame.
    b. Used the `apply` method to populate 'movie_duration' with the 'duration' value for rows where 'type' is 'Movie', and 'tv_show_duration' for rows where 'type' is 'TV Show'.
    c. Displayed the first few rows of the updated DataFrame to verify the changes using `print(df_exploded[['type', 'duration', 'movie_duration', 'tv_show_duration']].head())`.
    d. Exported the updated DataFrame to a new CSV file named `netflix_transformed2.csv`.

Objectives

Crafting a concise and convincing section that aligns with the analysis goals, highlighting key aspects like content distribution, genre popularity, and growth trends over time. The objectives will focus on uncovering the most popular genres, analyzing duration differences between movies and TV shows, and identifying key trends in Netflix content production and country contributions.

- What are the most common genres by country?
- What is the average duration between TV shows and movies?
- How has the release year trend for TV shows and movies evolved?
- Which countries are the top content producers, and how has their growth changed over time?
- How is the distribution of content ratings?
- How has the total number of movies and TV shows grown by year?

Insights and Analysis

1. Most Common Genres by Country:
   a. The dashboard shows that United States, United Kingdom, and India are the leading countries producing a high variety of content.
   b. Documentaries, Stand-Up Comedy, and Dramas are dominant genres, with countries like the U.S. leading in all these categories. Other countries such as Germany and France contribute significantly to Dramas and Documentaries.
   c. Interestingly, Stand-Up Comedy has a strong presence mostly in the U.S., while genres like Documentaries are spread across various countries like Germany and India.
2. Average Duration Between TV Shows and Movies:
   a. The TV Shows duration graph shows that most TV shows fall between 1 to 5 seasons, with the highest count at 1 season. This indicates that Netflix features a large number of single-season shows.
   b. Movie durations are primarily centered around 90 to 95 minutes, which is a typical movie length. There are fewer movies that extend beyond 100 minutes, showing a preference for shorter content.
3. Release Year Trend for TV Shows and Movies:
   a. The number of TV shows and movies released on Netflix has seen exponential growth starting around 2015, with a significant peak in 2018 and 2019. The platform added a large number of titles in these years, indicating a rapid expansion in content offerings.

4. Top Content-Producing Countries and Growth Over Time:
    a. United States is the dominant content producer, followed by countries like United Kingdom, India, and France. The growth graph shows a steady increase in content from the U.S., while other countries have also been contributing increasingly over time.
    b. Countries like Mexico and Brazil are also emerging as growing content producers, showing Netflix's efforts to diversify its content offerings globally.
5. Distribution of Content Ratings:
    a. The majority of content on Netflix falls under the TV-MA and TV-14 ratings, indicating a focus on mature and teen audiences. TV-PG and PG-13 also have a significant presence, catering to family-friendly content.
    b. There's a minor presence of lower age-group ratings such as G and TV-Y, indicating that while Netflix has some children's content, the bulk of its library is aimed at teens and adults.
6. Growth of Total Movies and TV Shows by Year:
    a. The graph indicates a sharp rise in the total number of titles added from 2016 to 2019, with 2018 being a record year for content growth.
    b. After 2019, there's a noticeable dip, which could be linked to the production halts during the COVID-19 pandemic in 2020, causing a slowdown in new content being released.

Recommendations

Based on the findings, I will suggest actionable recommendations such as focusing on specific genres or regions, improving content variety based on audience ratings, or strategic content expansion based on historical growth patterns.

1. **Focus on International Content Expansion**:
    - While the United States remains the largest content producer, Netflix should continue to capitalize on the growing markets in countries like **India**, **Mexico**, and **Brazil**. By investing in localized content for these regions, Netflix can further strengthen its global presence and attract more subscribers from these fast-growing markets.
2. **Diversify Genre Offerings**:
    - **Documentaries**, **Stand-Up Comedy**, and **Dramas** dominate the current content library. Netflix can further diversify its offerings by producing content in underrepresented genres such as **Science Fiction**, **Fantasy**, and **Thrillers**, which may appeal to niche audiences and enhance user retention by catering to varied tastes.

3. **Tailor Content Based on Regional Preferences**:
   - The analysis reveals that specific genres are more popular in certain regions (e.g., **Stand-Up Comedy** in the U.S., **Dramas** in India). Netflix should tailor its content strategy to align with regional preferences. Producing more local-language dramas and culturally relevant content can help boost user engagement in different countries.
4. **Strengthen Family-Friendly and Kids Content**:
   - With a smaller share of content for younger audiences (as seen with lower ratings like **TV-Y** and **G**), Netflix can benefit from increasing its investment in **family-friendly content**. This could attract more family-oriented subscribers and balance its library, making it a more appealing option for parents looking for child-friendly content.
5. **Optimize TV Show Durations**:
   - The majority of TV shows on Netflix tend to be limited to 1-2 seasons. While this format works for quick consumption, Netflix may consider investing in more long-running series with high production values to create binge-worthy experiences and build loyal fan bases.
6. **Focus on Content Development in Underserved Genres**:
   - The analysis indicates that while **Documentaries** and **Stand-Up Comedy** are well-represented, there's an opportunity for Netflix to develop content in **Historical Fiction**, **Biopics**, and **Fantasy**, which are currently less dominant. Expanding into these genres could help attract viewers who are interested in more diverse and unique storytelling.
7. **Leverage Content Ratings Data for Audience Segmentation**:
   - With a significant portion of content aimed at **TV-MA** and **TV-14** ratings, Netflix should continue to leverage its **mature** and **teen** audience bases. However, the platform can also aim to create segmented marketing campaigns and content recommendations for different audience groups (e.g., parents seeking PG content, young adults looking for edgy, teen-rated shows).
8. **Strategic Scheduling of Content Releases**:
   - Considering the sharp content growth from 2015-2019, Netflix should maintain momentum by strategically releasing high-quality, anticipated shows and movies, particularly around key times of the year (e.g., summer holidays, year-end holidays). This will help maintain user engagement and subscriptions throughout the year.