Entertainment, Media, and OTT Analytics -Netflix

Introduction

Netflix is one of the world's leading streaming platforms, offering a wide range of movies, TV shows, documentaries, and original content to a global audience. With millions of users and thousands of titles, analyzing Netflix data helps understand content distribution, user preferences, trends, and platform growth. This project, **"Netflix Analytics Dashboard"**, is developed using **Microsoft Power BI** to transform raw Netflix data into interactive and meaningful business insights.

The main aim of this project is to analyze Netflix content based on type, genre, country, release year, ratings, and duration. The dashboard enables users to explore how Netflix's library has evolved over time and how content is distributed across regions and categories. Using interactive visuals, KPIs, and filters, the project simplifies complex datasets for effective decision-making.

This documentation explains the project objectives, data sources, data preparation, modeling, visualization techniques, and insights derived from the Netflix Power BI dashboard.

Project Objectives

The key objectives of the Netflix Power BI project are:

- To analyze Netflix's content library by type (Movies and TV Shows).
- To study content distribution across countries and regions.
- To identify trends in content release over different years.
- To analyze popular genres and ratings.
- To provide an interactive dashboard for business and analytical insights.

These objectives help stakeholders understand Netflix's content strategy and viewer-focused trends.

Data Source and Description

The dataset used in this project contains Netflix titles and metadata collected from publicly available sources and datasets such as Kaggle.

Dataset Fields

Important columns used in the project include:

- **Show ID** – Unique identifier for each title.
- **Type** – Movie or TV Show.
- **Title** – Name of the content.

- **Director** – Director of the title.
- **Cast** – Main actors involved.
- **Country** – Country of production.
- **Date Added** – Date when the content was added to Netflix.
- **Release Year** – Year of release.
- **Rating** – Content rating (e.g., PG, TV-MA).
- **Duration** – Movie runtime or number of seasons.
- **Listed In (Genre)** – Category/genre of the content.

Data Challenges

While working with Netflix data, several challenges were handled:

- Missing values in director, cast, and country fields.
- Multiple values in a single column.
- Inconsistent date formats.
- Duplicate records.

These issues were addressed during data transformation.

Data Preparation and Transformation

Power BI's **Power Query Editor** was used to clean and transform the dataset.

Data Cleaning Steps

- Removed null and duplicate values.
- Split multi-valued columns such as country and genre.
- Standardized date formats in Date Added.
- Created separate columns for year and month.
- Renamed columns for better readability.

Calculated Measures (DAX)

Key DAX measures created include:

- **Total Titles = COUNT(Show ID)**
- **Total Movies = CALCULATE([Total Titles], Type = "Movie")**
- **Total TV Shows = CALCULATE([Total Titles], Type = "TV Show")**
- **Average Duration = AVERAGE(Duration)**
- **Titles by Year = COUNT(Show ID)**

These measures allow dynamic filtering and aggregation.

Data Modeling

A structured data model improves performance and usability.

- Relationships were created between date and content tables.
- Data types were validated for numeric and text fields.
- Unnecessary technical columns were hidden.
- Star schema concepts were applied where applicable.

The model ensures faster queries and accurate results across visuals.

Dashboard Design and Visualization

The Netflix dashboard is designed to be clean, professional, and interactive.

Key Visuals Used

- **KPI Cards** – Total titles, movies, TV shows, and countries.
- **Line Charts** – Content growth over years.
- **Bar Charts** – Top genres and countries.
- **Donut Charts** – Distribution of movies vs TV shows.
- **Map Visuals** – Global content distribution.
- **Tables** – Detailed title-level data.

Interactivity

- Slicers for type, year, country, and rating.
- Drill-down for deeper analysis.
- Tooltips for additional details.
- Cross-filtering between visuals.

These features improve exploration and usability.

Insights and Analysis

The dashboard provides meaningful insights such as:

- Netflix has more movies than TV shows.
- Content additions increased significantly after 2015.
- The United States and India are top content-producing countries.
- Drama and International Movies dominate the catalog.
- Recent years show rapid expansion in original content.

These insights help understand Netflix’s content and regional strategy.

Tools and Technologies Used

- **Microsoft Power BI** – Visualization and reporting.
- **Power Query** – Data transformation.
- **DAX** – Calculations and KPIs.
- **Excel/CSV Dataset** – Raw Netflix data source.

Limitations and Future Enhancements

Limitations

- Dataset may not be real-time.
- Limited user behavior analytics.
- No viewership metrics.

Future Enhancements

- Add user ratings and watch-time analysis.
- Integrate recommendation trends.
- Add forecasting for content growth.
- Include subscription and revenue insights.

Conclusion

The **Netflix Power BI Project** demonstrates how entertainment data can be transformed into valuable business insights. By applying data cleaning, modeling, DAX calculations, and professional dashboard design, the project presents a clear picture of Netflix's content strategy and growth.

This project strengthens Power BI, analytics, and visualization skills and serves as a strong portfolio project for aspiring data analysts.
