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VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

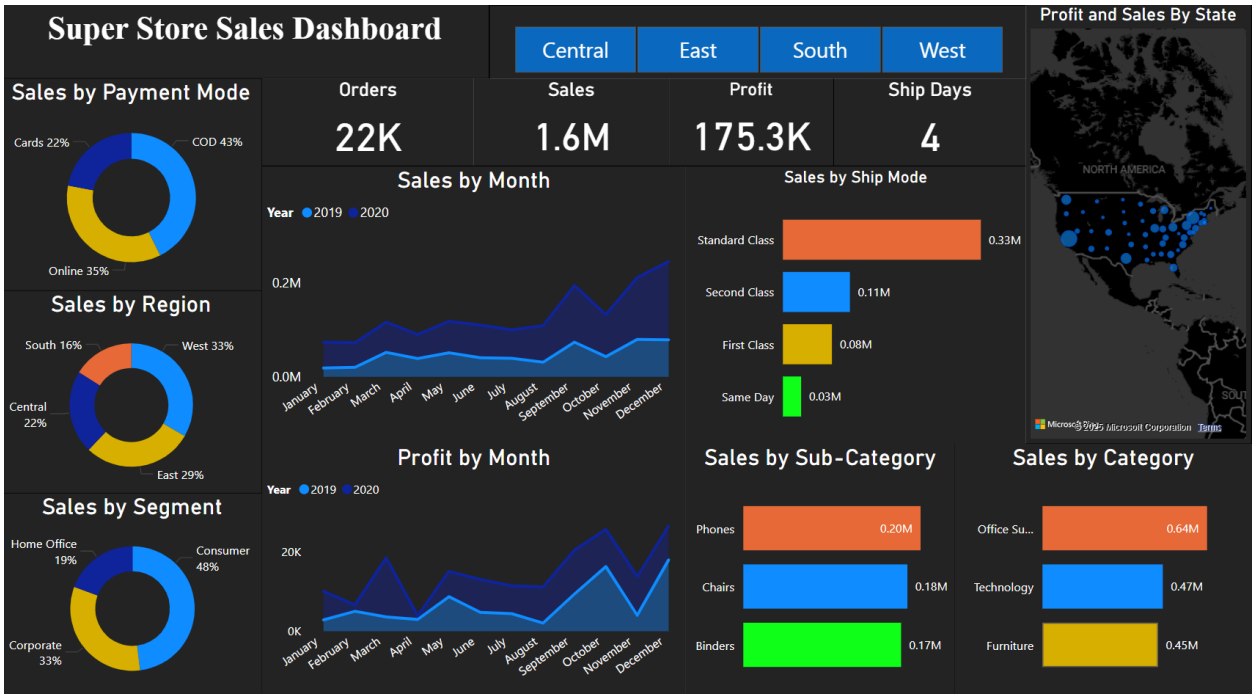
School of Advanced Sciences (SAS)

Course: Exploratory Data Analysis Lab
Course code: PMDS604P

Digital Assessment-5

Superstore Sales Dashboard in Power BI

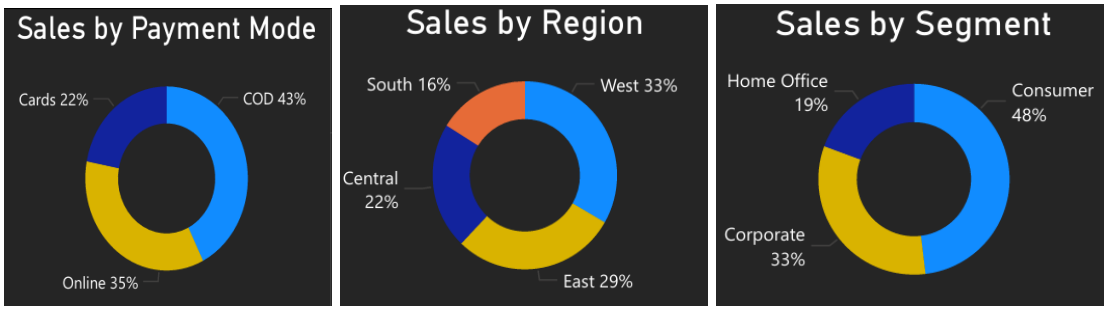
Introduction



This document presents an interactive dashboard created in Power BI using the Superstore dataset, titled "**Super Store Sales Dashboard**." The dashboard visualizes sales, profit, and operational metrics across regions, segments, categories, and time. Below, I describe the visualizations, the data they represent, design choices, and insights.

Visualizations and Design Choices

1. Donut Charts: Sales by Payment Mode, Region, and Segment



- **Sales by Payment Mode**: COD (43%), Online (35%), Cards (22%).
- **Sales by Region**: West (33%), East (29%), Central (22%), South (16%).
- **Sales by Segment**: Consumer (48%), Corporate (33%), Home Office (19%).

Design Choice: I used donut charts to show proportional distributions, with distinct colors for clarity and a compact layout to compare multiple dimensions.

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2. KPIs: Orders, Sales, Profit, and Ship Days

Shows total **orders** (22K), **sales** (1.6M), **profit** (175.3K), and **average ship days** (4).

Design Choice: I included KPIs to provide a quick overview of key metrics, placed centrally for visibility.

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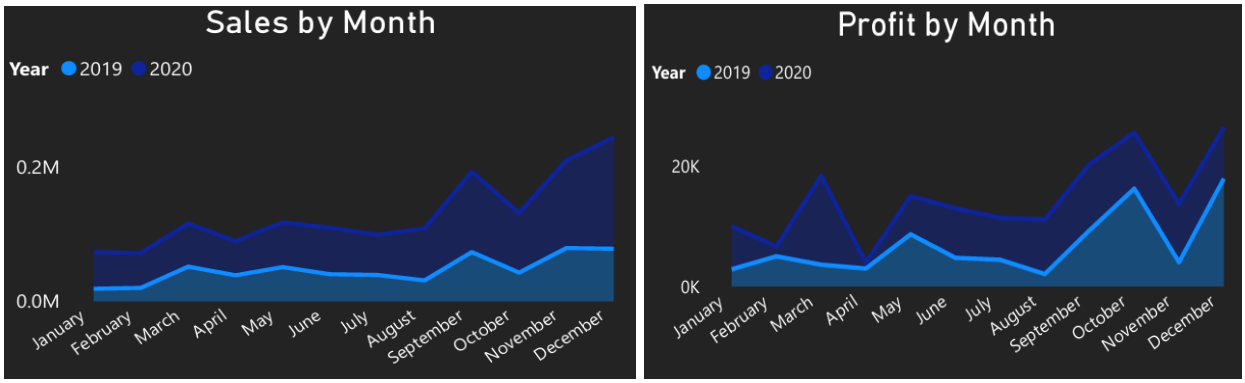
3. Area Charts: Sales and Profit by Month



- **Sales by Month**: Compares 2019 and 2020, with peaks in November (0.2M in 2020).
- **Profit by Month**: Shows 2019 and 2020, with a peak in November 2020 (20K).

Design Choice: I used area charts to show trends over time, with overlapping years to compare performance and highlight seasonal patterns.

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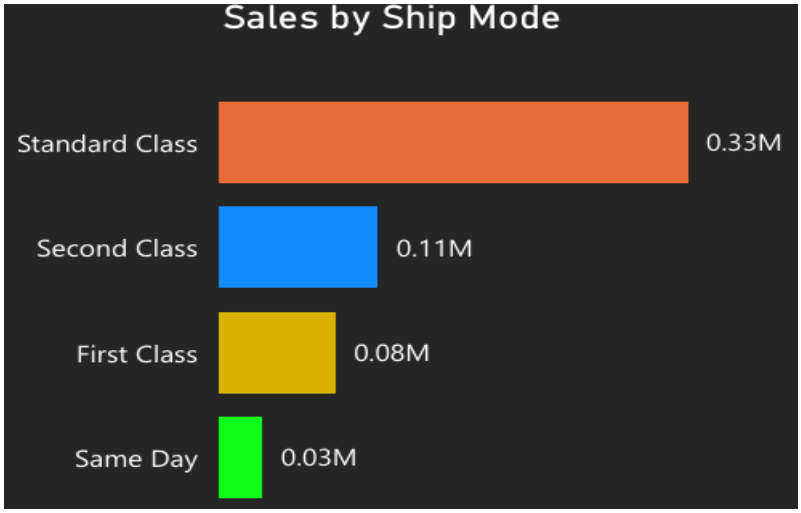
4. Bar Chart: Sales by Ship Mode



Shows sales by ship mode: **Standard Class** (0.83M), **Second Class** (0.41M), **First Class** (0.25M), **Same Day** (0.03M).

Design Choice: I chose a bar chart to compare sales across shipping modes, using colors to differentiate each mode for easy analysis.

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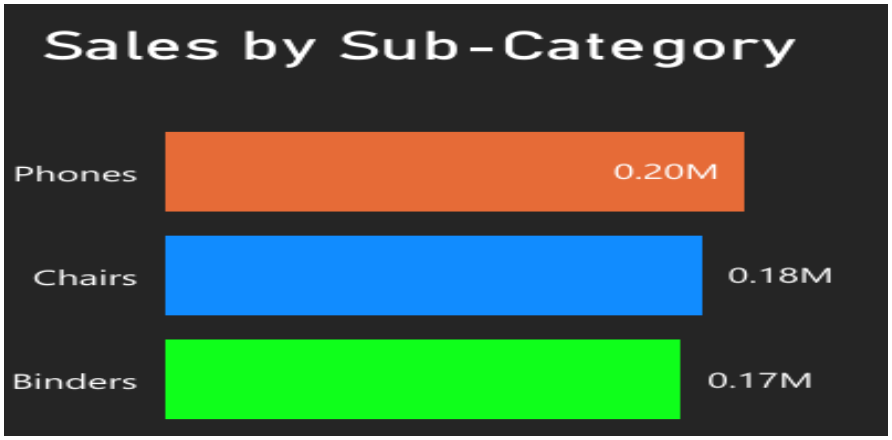
5. Bar Chart: Sales by Sub-Category



Shows top sub-categories: **Phones** (0.20M), **Chairs** (0.18M), **Binders** (0.17M).

Design Choice: I used a bar chart to highlight top-performing sub-categories, focusing on sales volume for quick identification.

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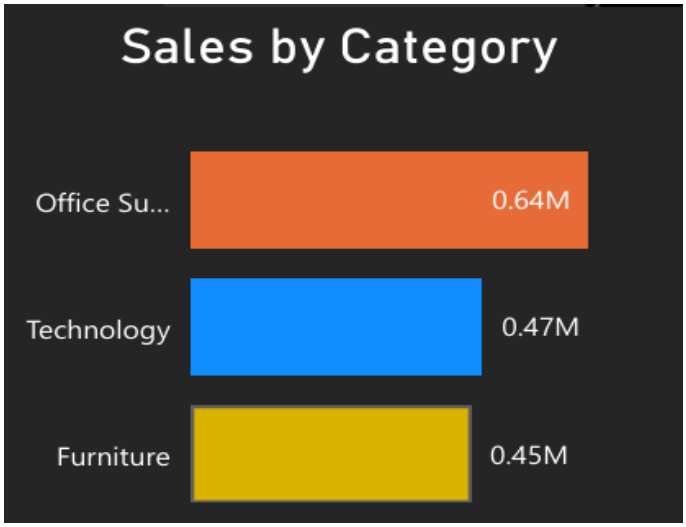
6. Bar Chart: Sales by Category



Shows sales by category: **Office Supplies** (0.64M), **Technology** (0.47M), **Furniture** (0.45M).

Design Choice: I included a bar chart to compare category-level sales, using colors to distinguish categories.

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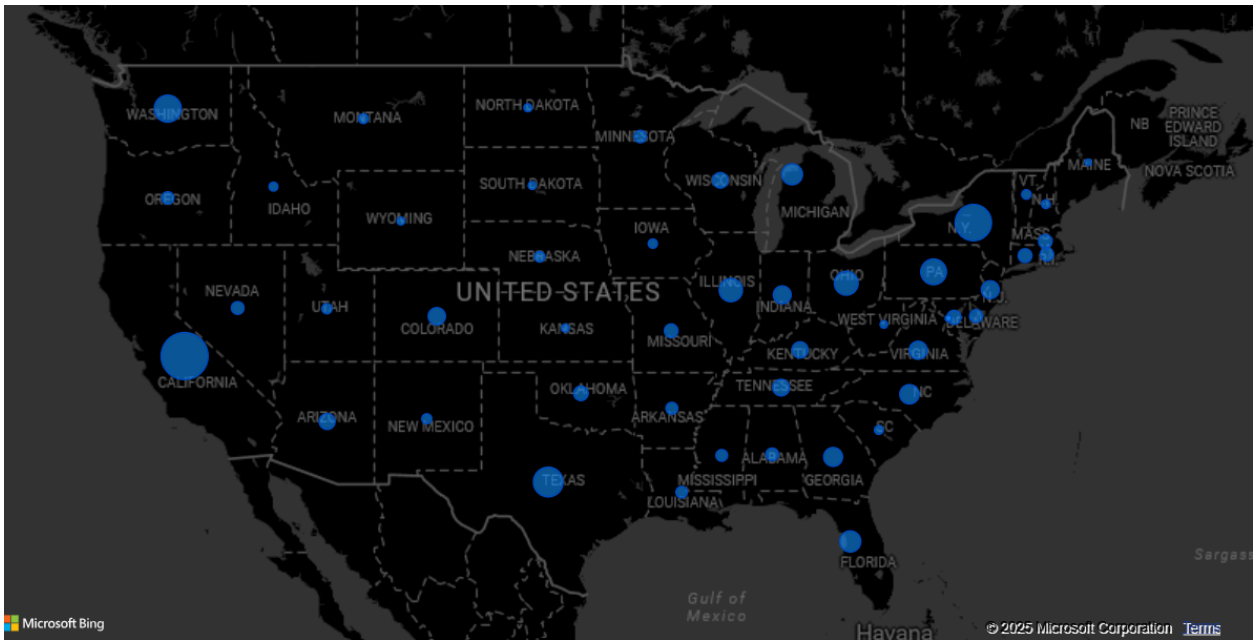
7. Map: Profit and Sales by State



A bubble map of the U.S. showing profit and sales by state, with bubble size representing sales volume. States like California and New York have larger bubbles, indicating higher sales.

Design Choice: I used a bubble map to visualize geographic performance, with bubble size reflecting sales to highlight key markets.

Interactivity Features

The dashboard includes slicers for Region (Central, East, South, West) and Year (2019, 2020), allowing users to filter data dynamically. Interactive actions enable users to hover over charts for detailed tooltips, enhancing exploration.

Design Choice: I added slicers and tooltips to make the dashboard interactive, enabling users to focus on specific regions or years and gain deeper insights.

Insights Deduced

1. **Payment and Shipping Preferences**: COD is the most used payment mode (43%), and Standard Class shipping dominates (0.83M in sales), indicating customer preference for cost-effective options.
2. **Regional Performance**: The West and East regions lead in sales (33% and 29%), suggesting a focus on marketing efforts.

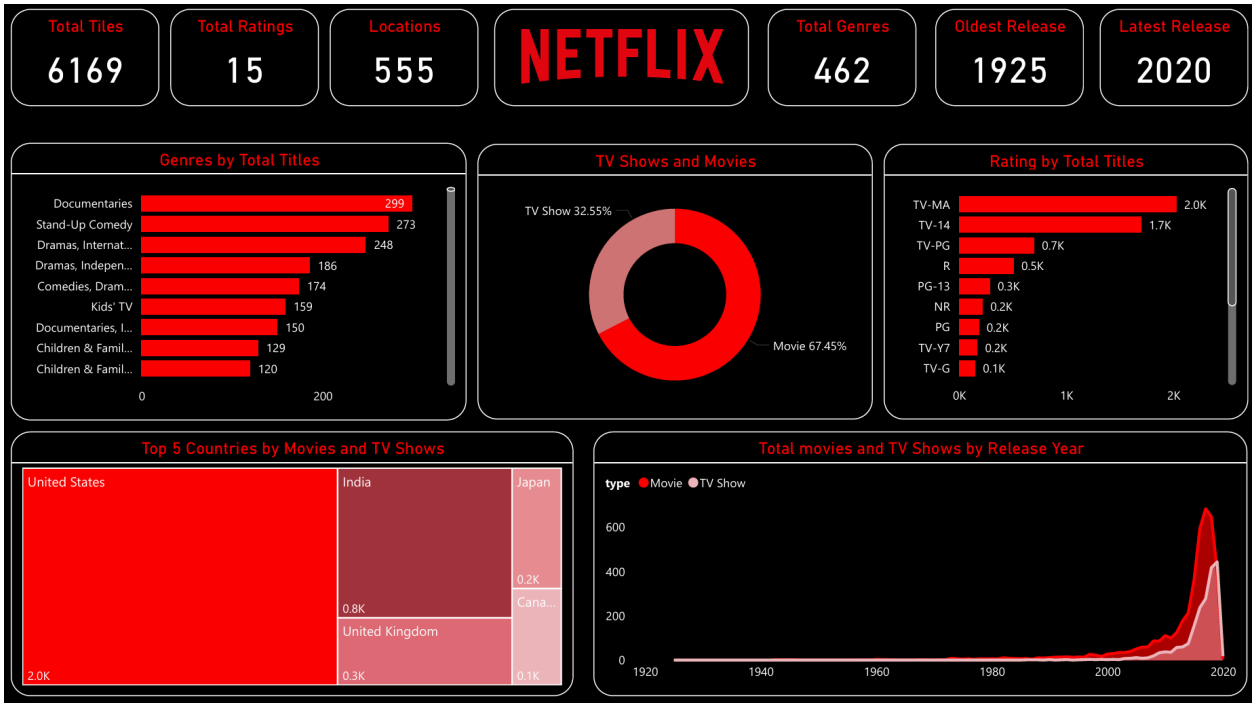
3. **Segment Contribution**: The Consumer segment drives nearly half of sales (48%), highlighting its importance to the business.
4. **Seasonal Trends**: Sales and profit peak in November (0.2M sales, 20K profit in 2020), likely due to holiday shopping, but profit dips to negative in February, indicating potential cost issues.
5. **Category and Sub-Category Leaders**: Office Supplies (0.64M) and Phones (0.20M) are top performers, while Furniture lags (0.45M), suggesting a need to optimize Furniture sales strategies.

Conclusion

The Superstore Sales Dashboard uses donut charts, KPIs, area charts, bar charts, and a map to analyze sales, profit, and operational metrics. These visualizations, along with slicers and tooltips, provide insights into payment preferences, regional performance, seasonal trends, and category contributions, helping identify areas for improvement.

Netflix Titles Dashboard in Power BI

Introduction



This document presents an interactive dashboard created in Power BI using the Netflix Titles dataset, titled "**NETFLIX Dashboard**" The dashboard visualizes the distribution of movies and TV shows across genres, ratings, countries, and years. Below, I describe the visualizations, the data they represent, design choices, and insights.

Visualizations and Design Choices

1. KPIs: Total Titles, Ratings, Locations, Genres, Oldest, and Latest Release

Shows total titles (6,169), ratings (15), locations (555), genres (462), oldest release (1925), and latest release (2020).

Design Choice: I included KPIs to provide a quick overview of key metrics, placed at the top for visibility.

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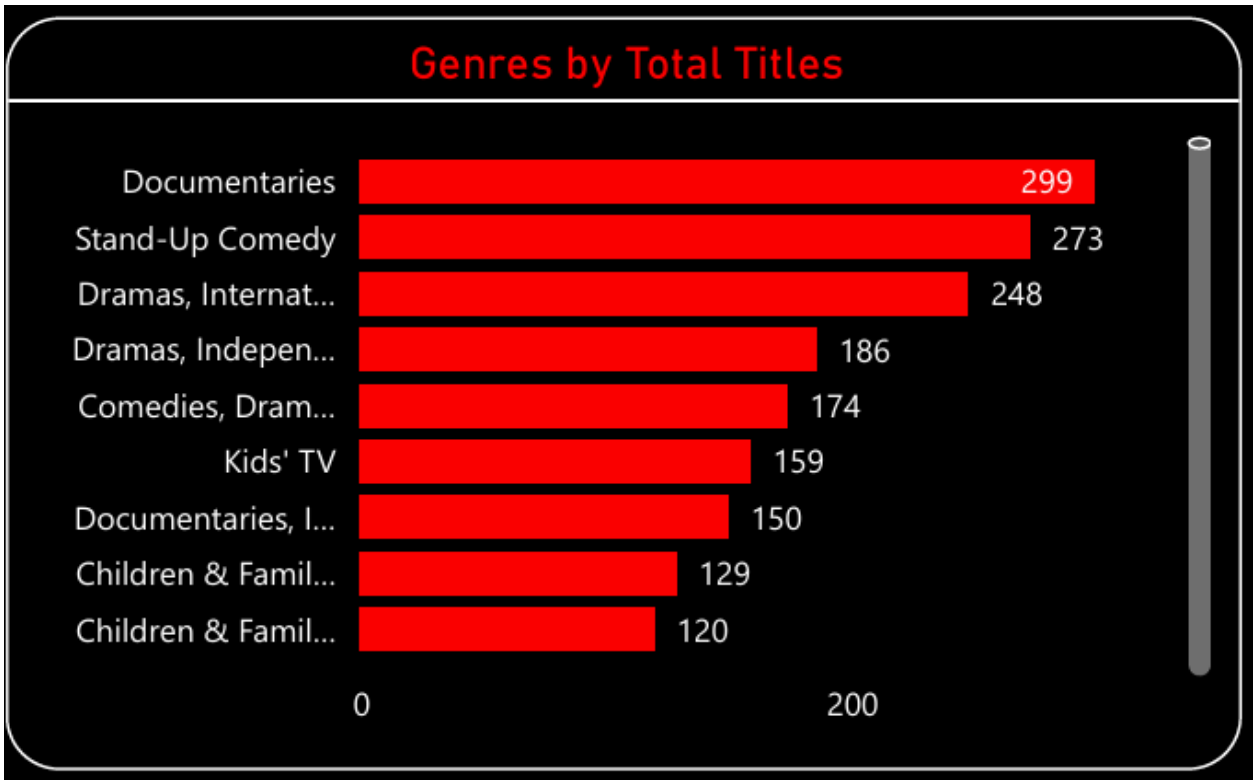
2. Bar Chart: Genres by Total Titles



Shows top genres: **Documentaries** (299), **Stand-Up Comedy** (273), **Dramas**, **International** (248).

Design Choice: I used a bar chart to highlight the most popular genres, making it easy to identify viewer preferences.

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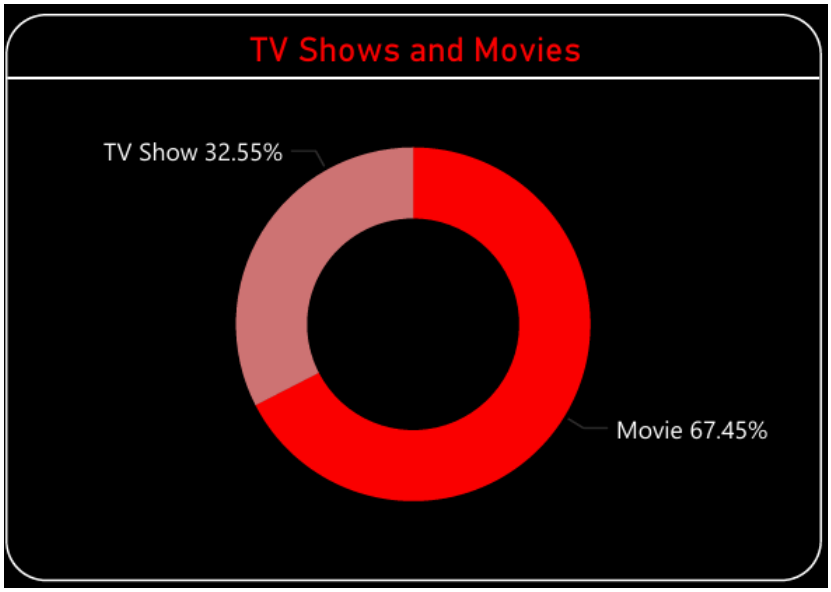
3. Donut Chart: TV Shows and Movies



Shows the split: **Movies** (67.45%), **TV Shows** (32.55%).

Design Choice: I chose a donut chart to visually compare movies versus TV shows, emphasizing the dominance of movies.

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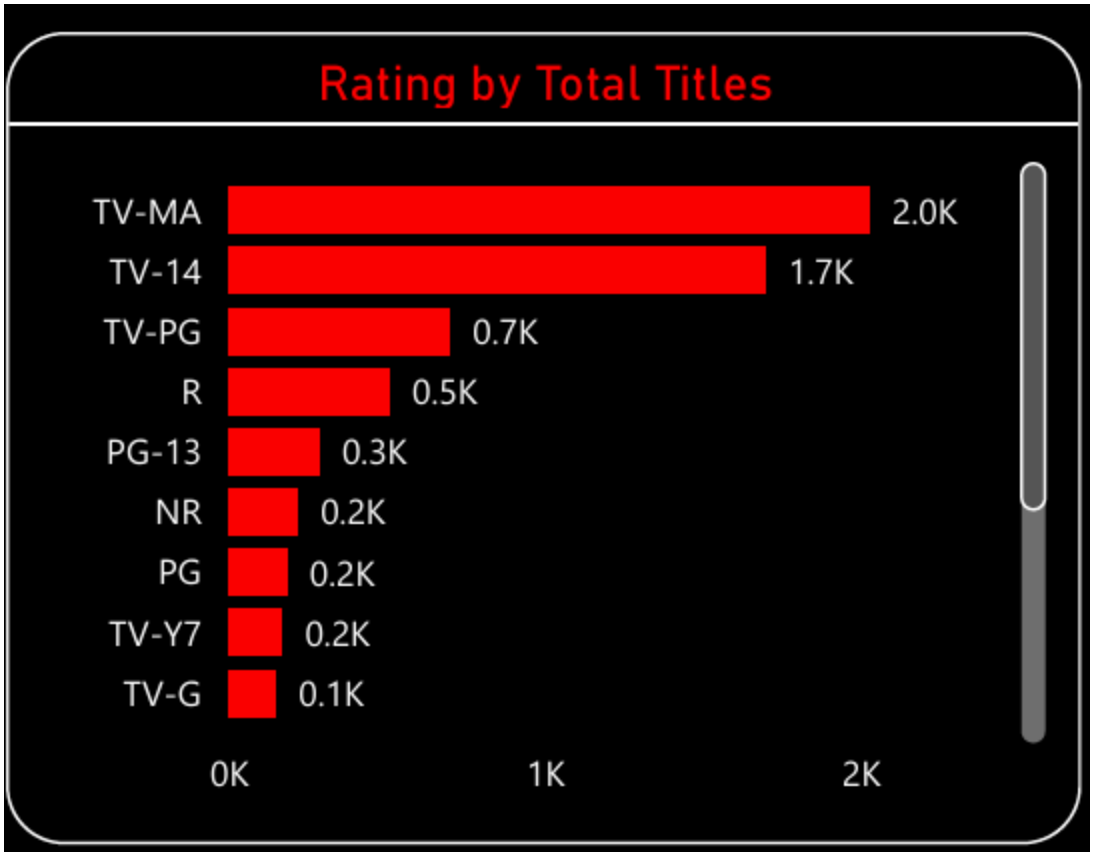
4. Bar Chart: Rating by Total Titles



Shows ratings: TV-MA (2.0K), TV-14 (1.7K), TV-PG (0.7K).

Design Choice: I used a bar chart to compare the frequency of ratings, highlighting the prevalence of mature content.

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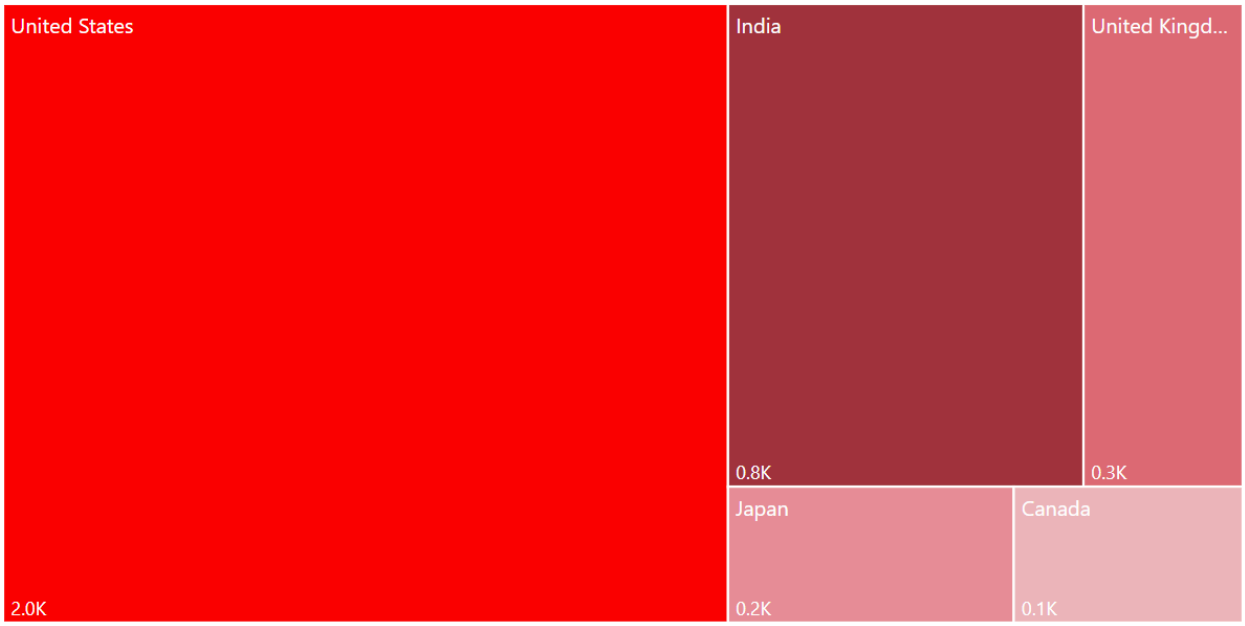
5. Treemap: Top 5 Countries by Movies and TV Shows



Shows top countries: United States (2.0K), India (0.8K), United Kingdom (0.3K), Japan (0.2K), Canada (0.1K).

Design Choice: I used a treemap to show the hierarchical distribution of titles by country, with rectangle size reflecting the title count.

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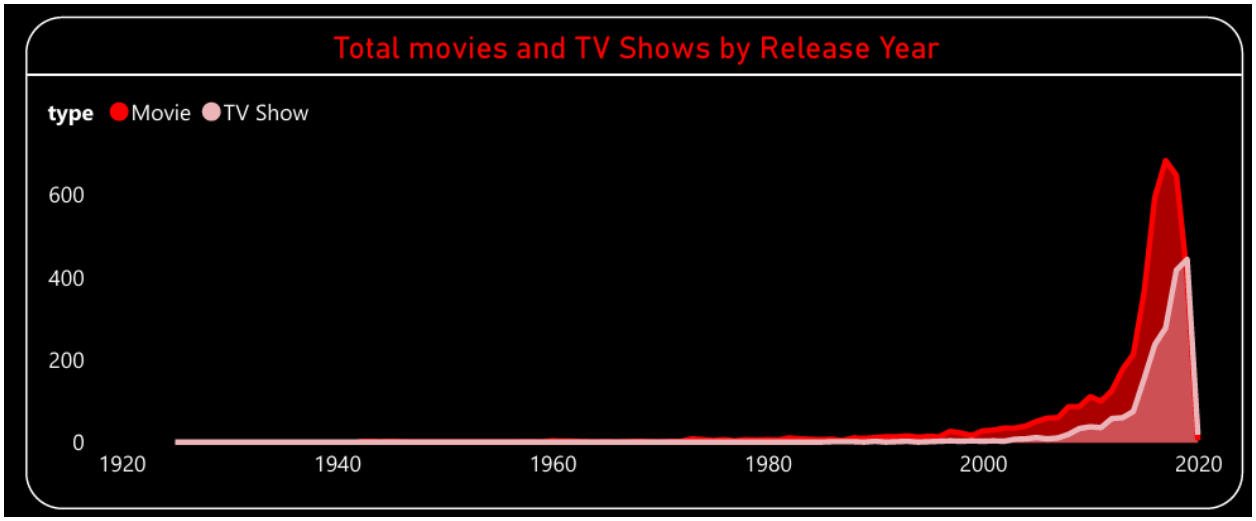
6. Area Chart: Total Movies and TV Shows by Release Year



Visualizes movies and TV shows from 1920 to 2020, peaking around 2018–2019, with movies consistently outnumbering TV shows.

Design Choice: I chose an area chart to show trends over time, with stacked areas to compare the growth of movies and TV shows.

Interactivity Features

The dashboard includes slicers for Type (Movies, TV Shows), allowing users to filter data dynamically. Tooltips provide additional details on hover, enhancing exploration.

Design Choice: I added slicers and tooltips to make the dashboard interactive, enabling users to focus on specific content types and gain deeper insights.

Insights Deduced

1. **Content Distribution**: Movies dominate (67.45%) over TV shows (32.55%), indicating a focus on movie content.
2. **Genre Preferences**: Documentaries (299) and Stand-Up Comedy (273) are the most popular genres, suggesting strong viewer interest in these categories.
3. **Rating Trends**: TV-MA (2.0K) and TV-14 (1.7K) are the most common ratings, indicating a large amount of mature content.
4. **Geographic Focus**: The U.S. (2.0K titles) and India (0.8K) lead in content production, highlighting key markets for Netflix.
5. **Production Trends**: Content production peaked around 2018–2019, with a sharp increase since 2000, reflecting Netflix's growth in original content.

Conclusion

The Netflix dashboard uses KPIs, bar charts, a donut chart, a treemap, and an area chart to analyze the distribution of movies and TV shows by genres, ratings, countries, and years. These visualizations, along with slicers and tooltips, provide insights into content distribution, audience preferences, and production trends.