Written Report
EDA on Streaming Services: Disney+, Hulu, Netflix

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Project Goal

Given the highly competitive digital streaming marketplace, how can so many different streaming services survive? This question led Team Cobra to choose the following for our team project goal: **What were the unique differences between the different streaming services based on offering data?**

We narrowed our EDA down to the top three streaming services: Disney+, Hulu, and Netflix. Amazon Prime was considered but ultimately overlooked since it was more a package subscription that included streaming offerings, rather than a subscription dedicated solely to streaming offerings.

Project Organization

Team Cobra organized its workflow around stream services rather than by order of operation; in other words, each member did all merging, cleaning, analysis, and visualization for their individual datasets rather than one member doing all the cleaning, the next member doing all the analysis, and so on.

Team Cobra felt like this organization allowed us to best specialize in our individual datasets, which in turn, best allowed us to pursue our project goal. This also allowed each member to engage in the holistic process of data science.

The organizational break-up is as follows:

Chris
- Disney+ EDA
- Disney+ Powerpoint slides
- Presentation on technical methods
- Written Report
- Creating Powerpoint visual format

Ben
- Netflix EDA
- Netflix Powerpoint slides
- Presentation on analysis
- Written Report

Emily
- Hulu EDA
- Hulu Powerpoint slides
- Presentation on reflections and takeaways
- .ipynb merging
- Github submission

Project Summary in Table

By Movies	Netflix	Hulu	Disney+
Targeted audience by movie rating?	Mature (18+)	Mature (18+)	Children (0+)
Top targeted audience preference by genre frequency?	Drama	Drama	Family
Average critical and popular rating/quality of offerings?	6.5 IMDB 5.5 Rotten	6.0 IMDB 7.5 Rotten	6.7 IMDB 6.0 Rotten
How up-to-date are the offerings?	90% of offerings within past 10 years	90% of offerings within past 10 years	90% of offerings within past 10 years
Streaming service release schedule?	Spring/Fall	Summer/Winter	Winter

| By TV Shows	Netflix	Hulu	Disney+
Targeted audience by movie rating?	Mature (18+)	Teens (13+)	Children (0+)
Targeted audience preference by genre frequency?	International/ foreign	Drama	Family
Average critical and popular rating/quality of offerings?	7.5 IMDB 5.5 Rotten	5.5 IMDB 7.5 Rotten	7.0 IMDB 5.5 Rotten
How up-to-date are the offerings?	90% of offerings within past 10 years	90% of offerings within past 10 years	90% of offerings within past 10 years
Streaming service release schedule?	Summer/Winter	Summer/Winter	Winter

Project Summary in Writing

1) What is each platform's targeted audience?
   a) **Netflix** targets mature audiences for both its movie and TV show offerings.
   b) **Hulu** targets mature audiences for their movies but targets adolescents for their TV shows.
   c) **Disney+** targets adolescents for both its movie and TV show offerings.
   d) Sample graph

Netflix Top 5 Movie Ratings

Netflix Top 5 TV Show Ratings
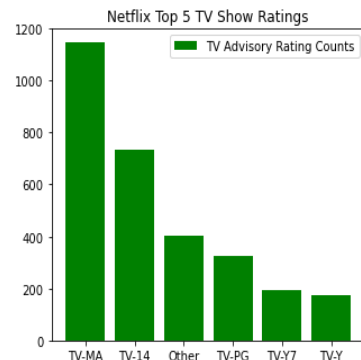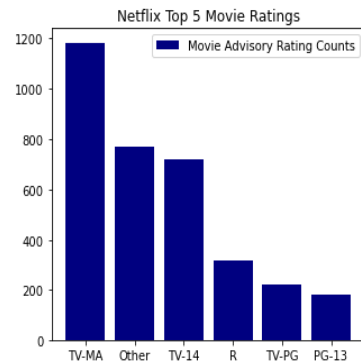
2) What are the most common genres on each streaming platform?
   a) **Netflix** offers dramas more than any other genre in terms of movies. However, international/foreign is the most common genre for TV shows. This could potentially allude to the fact that Netflix is a widely-used international platform.
   b) **Hulu** offers more dramas than any other genre in both their TV and movie offerings.
   c) **Disney+** offers mainly genres that are geared towards younger audiences, as family is leading in both of their TV and movie offerings.
   d) Sample graph
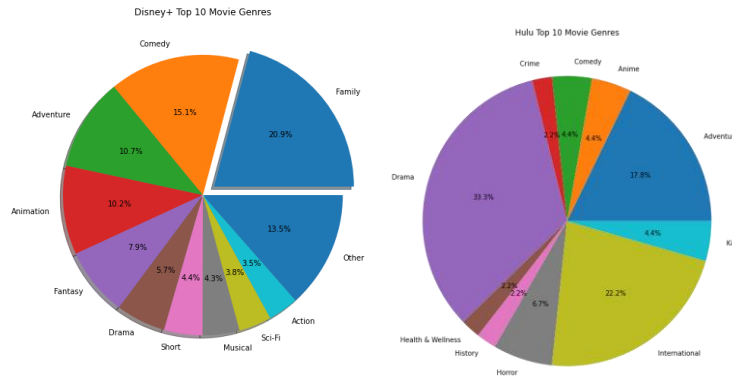
3) What is the quality of offerings per platform, measured by average IMBD and Rotten Tomato ratings?
   a) **Netflix** has the widest spread of movie quality, though it holistically supports "above average / 7.5" movies and "barely above average / 5.0" TV shows.
   b) **Hulu** has similar ratings as Netflix does, though they have a much smaller range. This suggests a higher consistency of "above average" offerings.
   c) **Disney+** has the worst ratings in both TV and movies, averaging around a 6.5 and 5.0 rating respectively. This makes, since their offerings target children, whose preferred style of content may not correlate with award-winning performances
   d) Sample graph
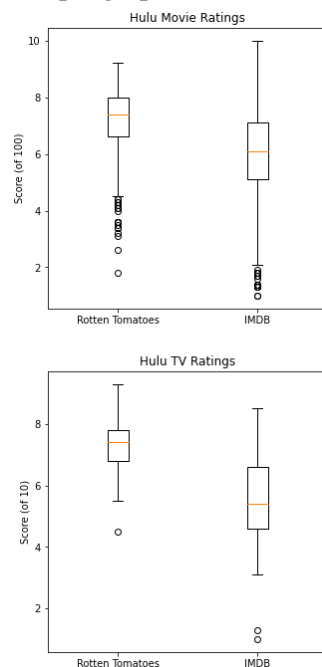
4) How up-to-date are the offerings on each streaming platform?
   a) **Netflix** has nearly 2000 offerings that have been released in the past 5 years (2016-2020), which is more than double that of the preceding 5 years (2011-2015) for both TV and movie offerings. Netflix does have some older content spanning back to the 50s.
   b) **Hulu** has around 30 offerings that have been released in the past 5 years (2016-2020) for movies and close to 400 offerings in the past 5 years (2016-2020) for TV shows. It may

be noted that Hulu may be better known for their shows rather than their movie offerings. Hulu also has some older offerings as well but not as many as Netflix

c) **Disney+** has close to 350 offerings that have been released in the past 5 years (2016-2020) for movies but a little less than half of that (~150) for TV offerings. Their movies do not span as far back as some of the other platforms

d) As streaming services are a modern day thing and the film industry has grown significantly since the beginning of the 21st century, it makes sense that most of the offerings will have been released post-2000s.

e) Sample graph
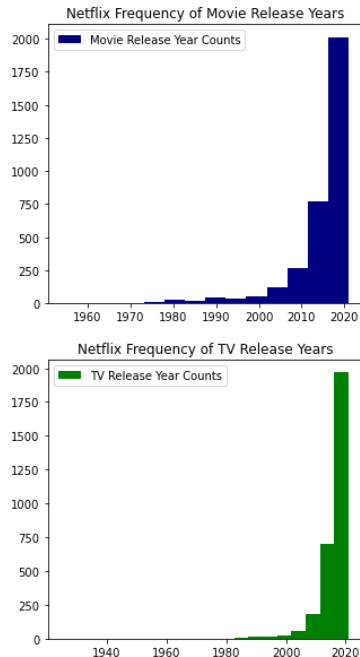
5) Do the platforms have a different update schedule (i.e. different schedule for when they upload new titles for their users?)

a) **Netflix** movies see more updates during the Spring and Fall, while TV shows see more updates during Summer and Winter. This might be due to the "style" of streaming consumption of their users. For example, people have more activities competing for their time during the spring/fall, and thus movies are a convenient 2 hours of fun per pop. During the summer/winter, people have much more free time and fewer commitments, and thus a more long-term streaming medium like shows might see more success.

b) **Hulu** generally follows a similar trend, where summer and winter seasons see the most number of updates overall.

c) **Disney+** has the most drastic difference in schedule, updating their content right before winter. Perhaps due to their consumer base of children, there is less demand to have the hottest new shows, and thus Disney can keep a very consistent update schedule.

d) Sample graph

Disney+ Movie Update Schedule

Disney+ TV Update Schedule