Slow Drip or All at Once? How does the staying power of a television show change based on the release schedule of the show?

Project Proposal

Background & Motivation

Binge-watching has been around for almost two decades, having been popularized by the availability (and accessibility) of TV shows like *Grey's Anatomy* and *Breaking Bad* on streaming platforms like Netflix, Hulu, and Amazon Prime Video starting in the mid- to late 2000s. However, it really took off in 2013 when Netflix began releasing original content, starting with *House of Cards* and followed later that year by *Orange is the New Black*. Netflix started the practice of releasing all episodes of a season at once, a sharp departure from the standard weekly episodes. They continue to release most of their content this way, with a few exceptions (*Love is Blind* and season 3 of *Bridgerton*, notably). The public seemed to love it because they could watch at their own pace and didn't have to wait a week after a mid-season cliff-hanger.

Shows like *Succession*, *The Last of Us*, and *The White Lotus*, all of which aired weekly on HBO at the same time they were released on HBO Max (later Max), created intense online discourse and reignited appointment television for an hour each Sunday. This provided not only a way for viewers to connect with each other, but also built momentum and caused the shows to stay in the public discourse for as many weeks as they aired.

As more streaming platforms came onto the market, so did more methods of releasing original content. While some shows are still released all at once (the "binge model"), many are released weekly, with some providing two or three episodes to start before transitioning to one episode a week. Some shows will also be released in batches of two episodes every week. For example, all 3 seasons of *The Bear* on Hulu have been released all at once, while season 1 of *Shogun* premiered with the first two episodes at once and then weekly.

With the rise of social media, platforms like Twitter became an important place to discuss TV shows with fellow viewers and get recommendations, later followed by TikTok. This project will seek to answer the question "*Does the release schedule of a show (weekly, in parts, or all at once) impact their staying power?*" Of particular

interest is how shows perform on weekly Nielsen charts - both overall and by streaming platform - and their interest over time on Google Trends.

Data Sources

In order to fully realize our project, we will be collecting data from a number of sources in order to build up a well-rounded dataset that approaches the topic from a number of different angles. As such, we have chosen to collect data from the following sources:

Nielsen and Luminate Streaming Ratings

Beginning in 2020, Nielsen began compiling and publishing weekly streaming ratings. These ratings can be filtered to include all shows or shows that are original programming to a streaming platform. As many original programs on streaming services release all at once, these ratings will mainly comprise of the 'all at once' shows. That said, there are absolutely streaming platforms that release shows on a weekly basis, and we will ensure to note which shows release in what manner.
URL: https://www.nielsen.com/data-center/top-ten/
URL: https://flixpatrol.com/top10/
URL: https://variety.com/h/most-watched-streaming-originals-movies-tv-shows/
URL (example):
https://variety.com/2024/tv/news/nielsen-top-10-ratings-streaming-1235693657/
URL (example): https://x.com/TVGrimReaper/status/1787595090766311546

Nielsen TV Ratings

Famously, Nielsen compiles television ratings for network television, and has done so since the 1950s. While TV viewership has declined over the years, TV is still a great example of shows that release in a slow drip, with most shows commonly releasing episodes once per week. As such, we wish to compare ratings of these 'slow drip' shows to the more commonly seen 'all at once' shows that release on streaming platforms to see what the differences are between the two.
URL: https://guides.libraries.psu.edu/nielsen/historical
URL: https://www.nielsen.com/data-center/top-ten/

Netflix Streaming Data

Starting in June 2021, Netflix began releasing four weekly top 10 lists to the public. There are separate lists for the top 10 TV shows and movies, as well as for those in English and other languages. The data includes the number of weeks the title has been in the top 10, hours viewed, runtime, and views. TV shows are split up by season. Their methodology is listed at the bottom. They also have top 10 lists for each country, as well as most popular lists, which are the top 10 titles in each of the four weekly lists, based on the views in their first 91 days on Netflix.

In December 2023, Netflix released “What We Watched: A Netflix Engagement Report”, a new bi-annual report on what their viewers are watching. For each title it includes hours viewed, the premiere date, and whether or not it’s available globally. The second edition was released in May 2024. This is helpful as it includes every title on Netflix, not just those on the top 10 lists. It also gives a broader view (6 months), as opposed to weekly snapshots.
URL: https://www.netflix.com/tudum/top10/tv
URL:
https://about.netflix.com/en/news/what-we-watched-a-netflix-engagement-report
https://about.netflix.com/en/news/what-we-watched-the-second-half-of-2023

Google Trends

Google Trends provides a quick and easy way to discover the peaks and troughs of popularity for a given show, by showing a graph of when the search term was trending the most and the least - through web search and YouTube search. One point of note is that the scale is not related to any real life values: 100 always corresponds to the peak of activity, regardless of how high or low that peak was in comparison to other search terms. This will allow us to get an idea of when a show’s popularity peaked, and we can then compare these dates to the release dates of the show.
URL (example):
https://trends.google.com/trends/explore?date=now%201-d&geo=US&q=bridgerton&hl=en

Premiere Date Information

In order to determine the difference between shows that release all at once vs shows that release weekly, we need to know when the show initially premiered. To do this, we will gather data from various sources, including Entertainment Weekly and Metacritic television release date archives.
URL: https://www.metacritic.com/news/tv-calendar-archive-of-past-dates/
URL: https://ew.com/2024-tv-premiere-dates-8404927

Methodology

For our project, we intend to highlight the following aspects of data science to help strengthen our research and findings.

Statistical Thinking

In order to better understand the relationships between various shows and their staying power, we will be creating statistical models that aim to highlight the trends and relationships of shows and their popularity. By creating these models, we hope that we can find overall trends in the staying power of shows: do shows that release

weekly remain on the charts longer? Does the streaming platform that a show is on affect its ratings? How do ratings for shows compare between streaming and live television? Which relationships are the strongest, and what can this tell us about the landscape of television consumption in the current age?

Data Visualization

Our main visual will be a line graph of show position on the Nielsen and streaming platform charts by week. We can group by things like genre and release schedule. Secondary graphs will visualize show position by individual streaming platforms and release schedules, as well as the top shows overall and by platform, based on their longevity on streaming charts. If needed, we will have box plots showing the range of chart positions for each release schedule.

Data Engineering

In order to store all of the data that we collect, we intend to create a PostgreSQL database to house our information. We plan to store our data in 3NF and intend to serve our data via either an API or connecting it directly to our instances of Python or R, respectively.

Machine Learning

We will use machine learning models to help identify key relationships and trends between our variables of interest. We aim to use models such as K Nearest Neighbors and Clustering as we aim to explore the question of popularity between shows with different release strategies.

Data Ethics

We plan on addressing issues related to bias in the show selection process. We are aware that, as researchers, the shows that we select to include in our analysis can be biased and can unintentionally skew our results in one way or another. As such, we plan to select our shows in a way to minimize the potential biases that we might have regarding TV shows.