

Youtube Analytics



Instructor:

JC Bonilla

Team 2:

Ullas Srivastava

Diwei Zhu

Valeriya Gorelova

Wandi Zhang

AGENDA

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INTRODUCTION
&
BUSINESS CASE

PART 2
DATA
OVERVIEW &
PREPARATION

PART 3
DATA ANALYSIS
&
ENGAGEMENT
SCORE

PART 4
RECOMMENDA
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LIMITATIONS &
LESSONS
LEARNED

2 billion

Monthly Users

81%

Young adult (15-25) use Youtube

5.5 billion

USD ad revenue obtained in 2020

Business Case

Problem

A YouTuber needs ideas that will make his future videos trend and have high engagement.

Proposed Solution

Design a content strategy based on historical trending data and provide recommendation for the future.

Our Mission

Showcase our professional research capabilities, analytics skills and comprehend the growing digital industry.

Goal

Create engagement score and strategize the next video content for the client.

Data Overview

Preparing Data
Category Analysis

About the Data

Data Source: Kaggle

<https://www.kaggle.com/datasnaek/youtube-new?select=USvideos.csv>

YouTube Trending Videos

Region: USA

16 columns x 40,949 rows

First Video Published: 2006-07-23

Last Video Published: 2018-06-14

What are Trending Videos

Trending videos that viewers would find **interesting**

Video content is created for the YouTube exclusively.

Source: <https://support.google.com/youtube/answer/7239739?hl=en>

Data Types

ID

channel_title
video_id

DATE

trending_date
publish_time

TEXT

title
description
tags

CATEGORY

category_id

NUMBER

Views
Likes/dislike
comment_count

BOOLEAN

comments_disabled
ratings_disabled
Video_error_or_removed

Most Viewed Video



Childish Gambino - This Is America (Official Video) - YouTube

Childish Gambino - This is America

Channel Title: ChildishGambinoVEVO

Published & First Trending: 2018-05-08

Last Trending: 2018-06-02

Views: 225,211,923

Likes: 5,023,450

Dislikes: 343,541

Comments: 517,232

Least Viewed Video



1 dead, others injured after Ky. school shooting

Channel Title: Newsy

Published: 2018-01-26

First Trading: 2018-01-26

Last Trending: 2018-01-28

Views: 559

Likes: 9

Dislikes: 0

Comments: 4

Most Liked Video



BTS 'FAKE LOVE' Official MV

Channel Title: ibighit

Published: 2018-05-18

First Trending: 2018-05-19

Last Trending: 2018-06-01

Views: 123,010,920

Likes: 5,613,827

Dislikes: 206,892

Comments: 1,228,655

Least Liked Video



EARL GREY MACARONS- The Scran Line

Channel Title: The Scran Line

Published: 2017-11-14

First Trending: 2017-11-15

Last Trending: 2017-11-19

Views: 37,376

Likes: 2,093

Dislikes: 136

Comments: 521

Least Liked, Disliked and Commented Video



GET READY WITH ME

Channel Title: Tati

Published: 2018-03-02

First Trending: 2018-03-04

Last Trending: 2018-03-14

Views: 930,151

Likes: 0

Dislikes: 0

Comments: 0

Most Disliked & Commented Video



So Sorry.

Channel Title: Logan Paul Vlogs

Published: 2018-01-02

First Trending: 2018-01-03

Last Trending: 2018-01-09

Views: 37,539,570

Likes: 1,402,578

Dislikes: 1,674,420

Comments: 1,361,580

Least Disliked Video



Star Wars: The Last Jedi Will Have a MASSIVE Opening Weekend

Channel Title: ScreenJunkies News

Published: 2017-12-15

First Trending: 2017-12-17

Last Trending: 2017-12-19

Views: 56,002

Likes: 1,348

Dislikes: 136

Comments: 244

Data Preparation

Preparing Data
Trending Video Analysis
Category Analysis

Data Cleaning

Created **insightful features** by **aggregated** videos trending multiple times. **Removed** outliers & duplicates and performed **feature engineering**.

40,949

X

16



generate



6,351

X

45

video set

2,199

X

39

youtuber set

32

X

5

category set

Data Analysis

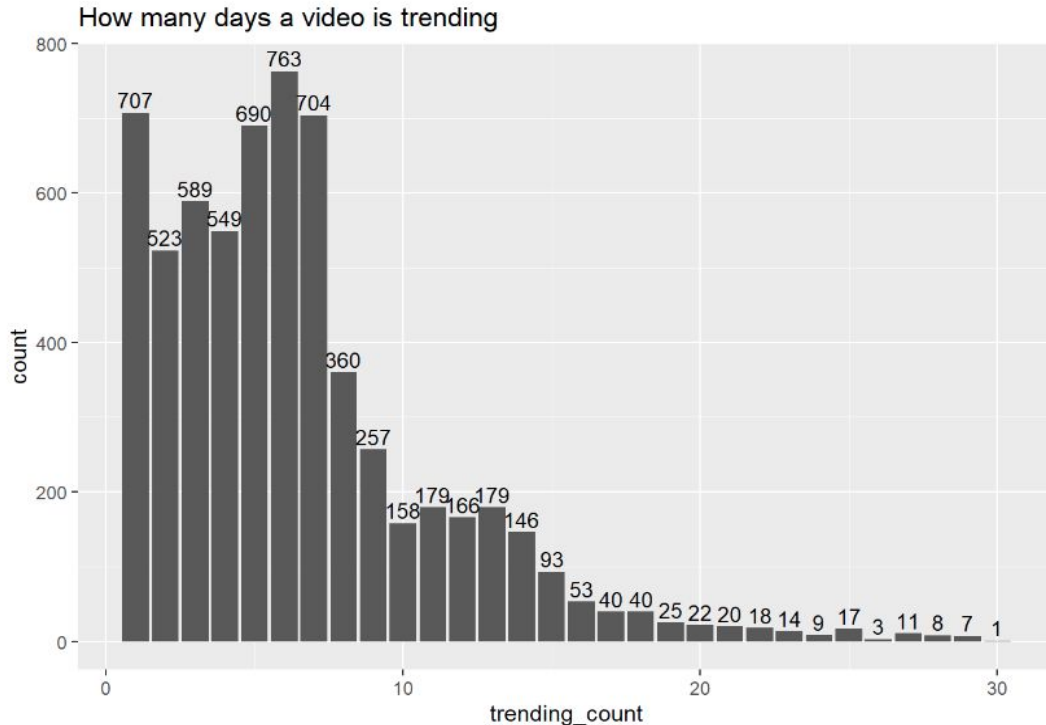
Video
YouTuber
Category

Days a Video is Trending

88% of videos trend

> 1 day

Most videos take about
1 week
in the trending zone



Engagement Through Likes

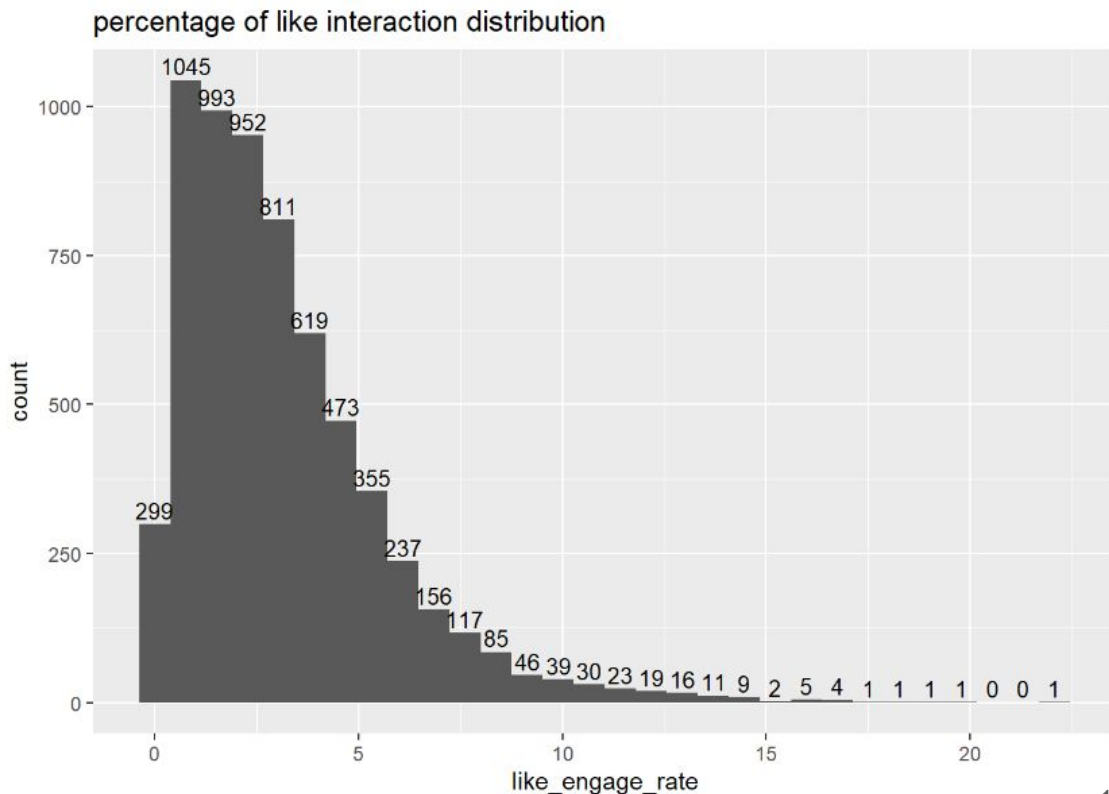
Less than

5%

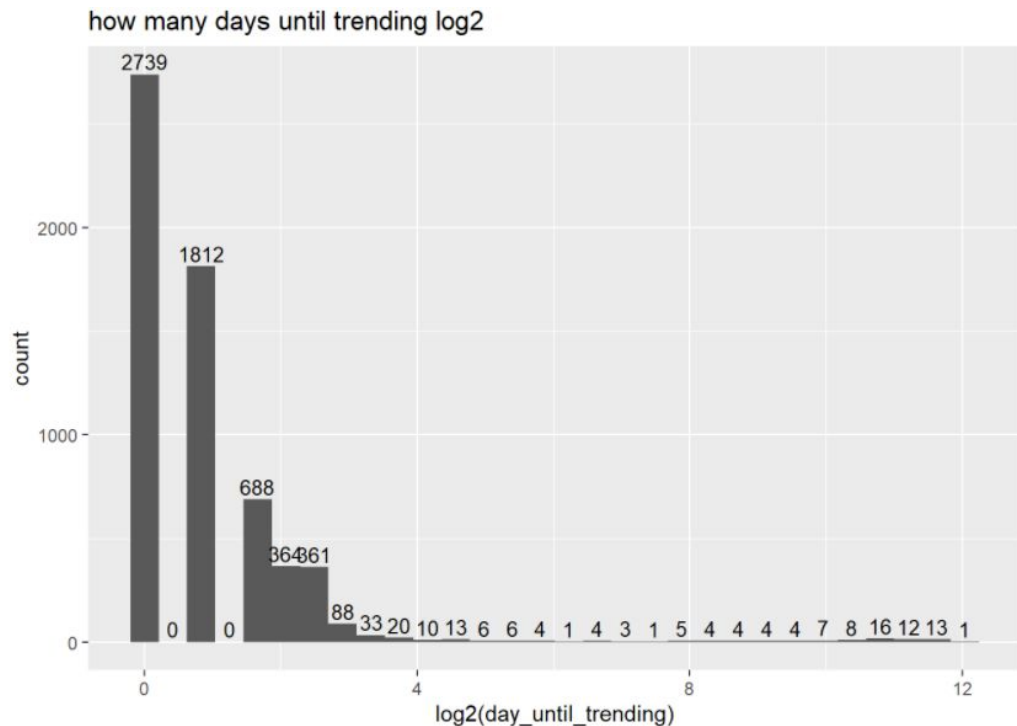
click like/dislike

2.5%

Comment



Days Until Trending



1-2

days to get trending

Video from 4000+ days ago
could trend

Log allows us to focus more
on detail without losing
information on the right

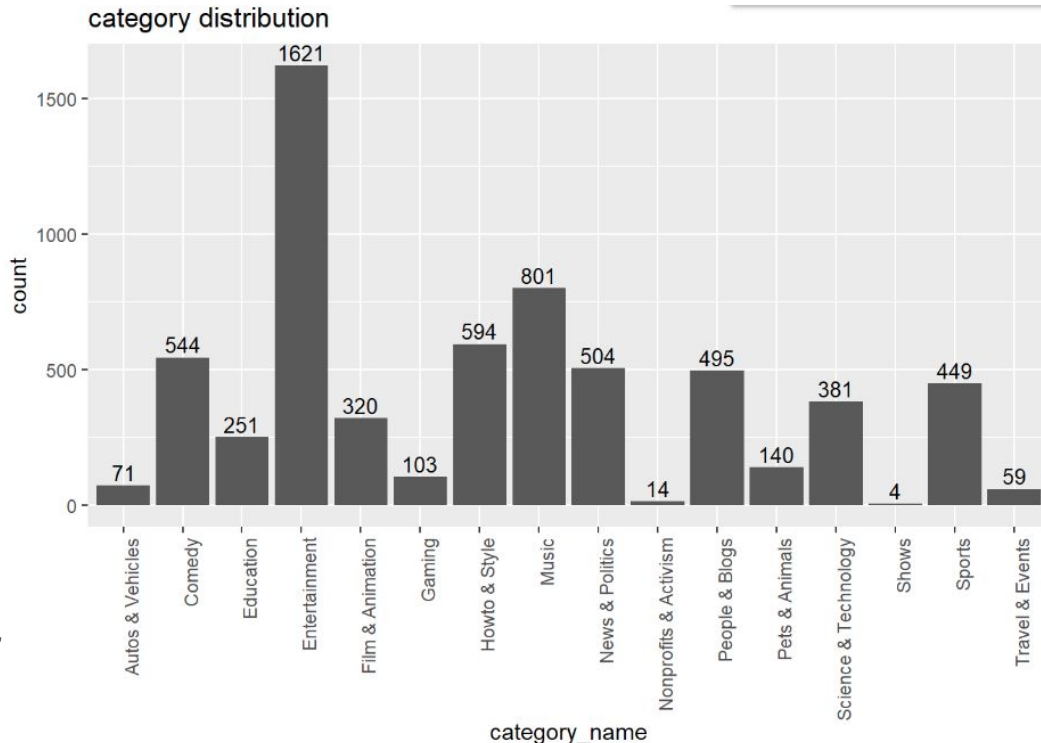
Category & Content Popularity

TOP 3

- Entertainment
- Music
- 'How to'

13 /50

Trending videos come under entertainment, since 2007

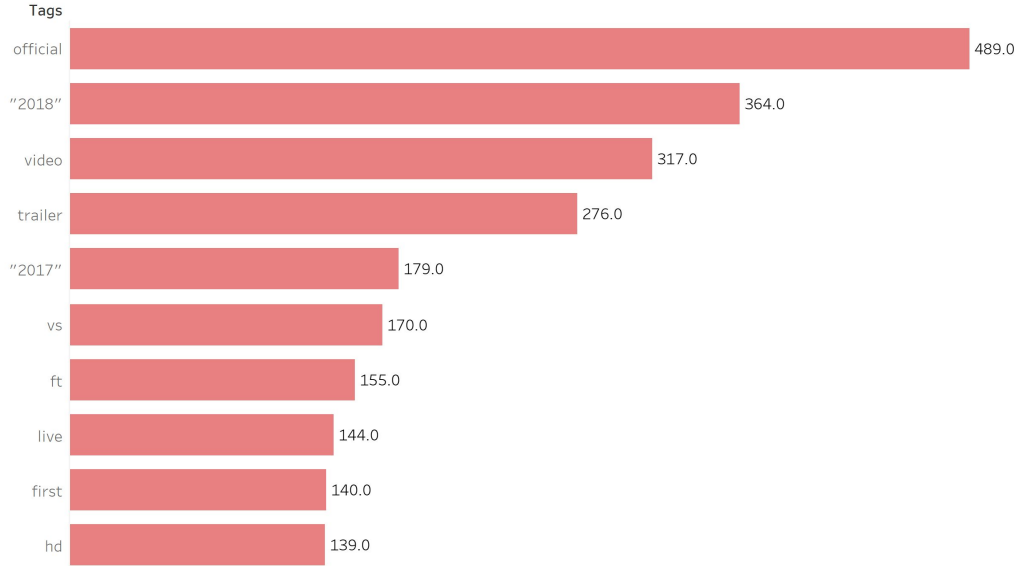


Tags



Trending Video Text Analysis: Title

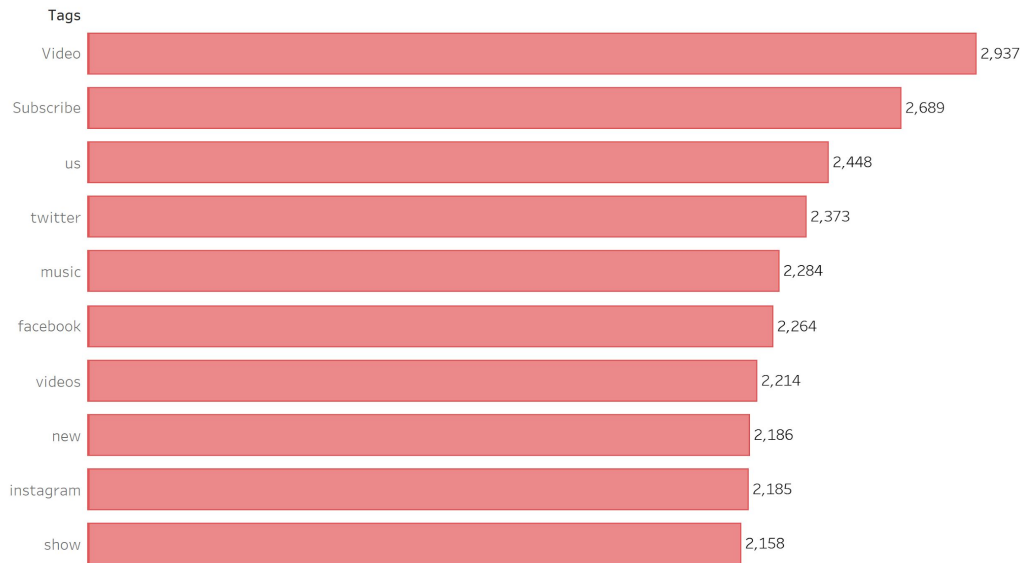
Video titles **differentiated** reputed artists or movies and often used for **announcing** the upcoming events.



Established artists & production companies make most impact with a title. **Official, Video** and **Trailer** are among the most popular words in title.

Trending Video Text Analysis: Description

Description **asks for user actions** and links to **other profiles/apps** connected to the channel.

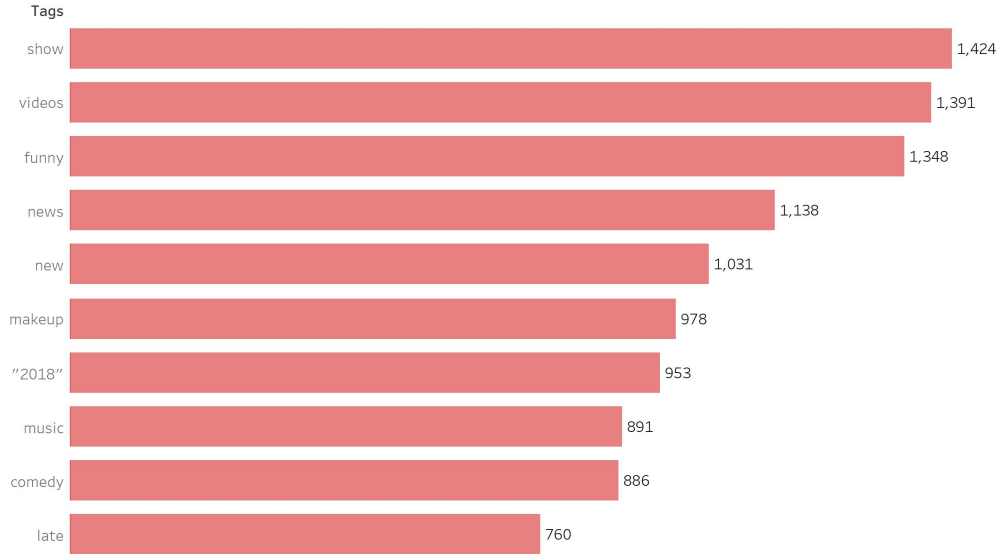


Links to the **other videos** on the channel are the **most common**.

Twitter, Facebook and Instagram are the most common **cross platform** links.

Trending Video Text Analysis: Tags

Trending video tags **explain the video genre and theme.**



Most common tags are **entertainment**: including makeup, comedy, funny, show.

Tags shows that the **latest videos** are preferred.

Top Trending Video Channels

80%

Trending Videos are of
Company Channels

20%

Trending Videos are of
Independent channels

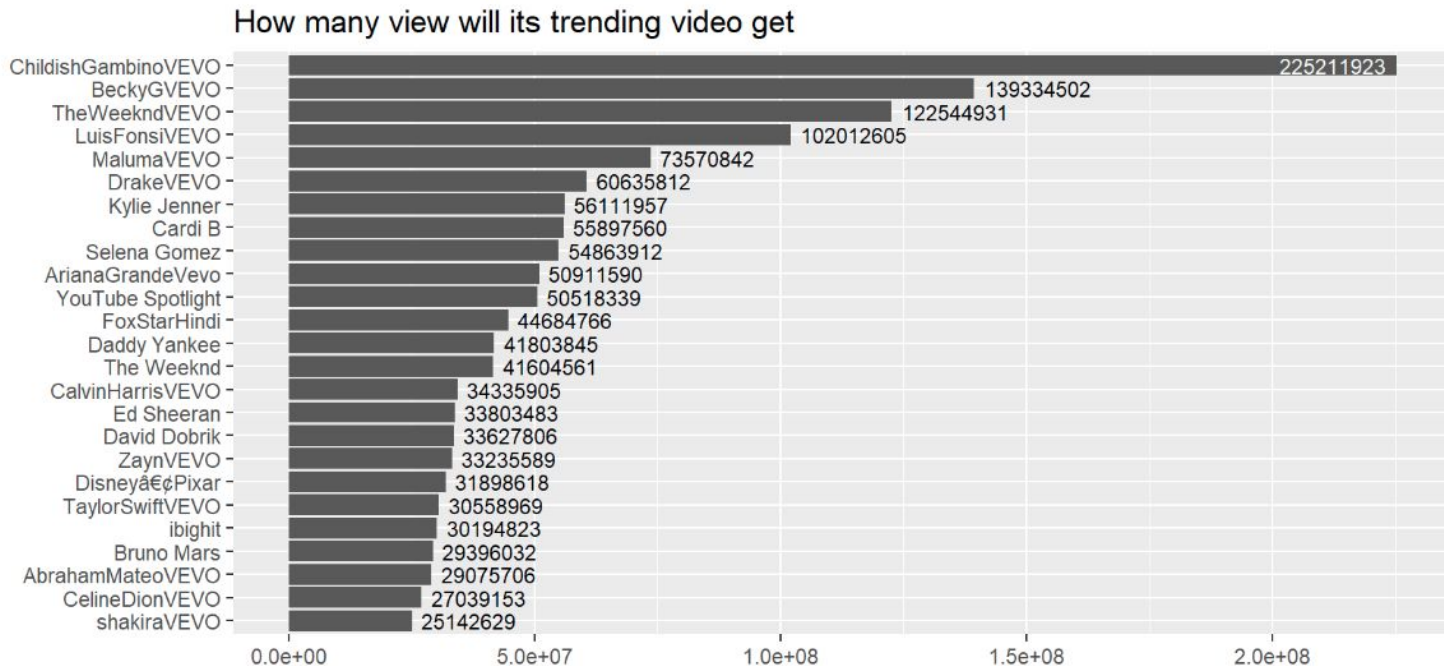
ESPN	company
TheEllenshow	company
The Tonight Show Starring Jimmy Fallon	company
Jimmy Kimmel Live	company
Netflix	company
The Late Show with Stephen Colbert	company
NBA	company
CNN	company
Vox	company
The Late Late Show with James Corden	company
BuzzFeedVideo	company
Refineery29	company
Late Night with Seth Meyers	company
NFL	company
Saturday Night Live	company
Insider	company
WWE	company
first we feast	personal
Tasty	company
Washington Post	company
Great Big Story	company
SciShow	personal
Scishow	company
collegeHumor	company

FBE	company
Life Noggin	company
screen junkies	company
Vogue	company
Tom scott	personal
warner bros pictures	company
bon appetit	company
Good Mythical Morning	personal
jacksfilms	personal
ABC News	company
Healthy JunkFood	personal
Marques Brownlee	personal
TED-Ed	company
Vanity Fair	company
NBC News	company
The King of Random	company
watch what happens live with andy cohen	company
BBC Radio 1	company
TODAY	company
BBC News	company
NBC Sports	company
CBS News	company
e entertainment	company
iisuperwomanii	personal
Safiya Nygaard	personal
The Dodo	company

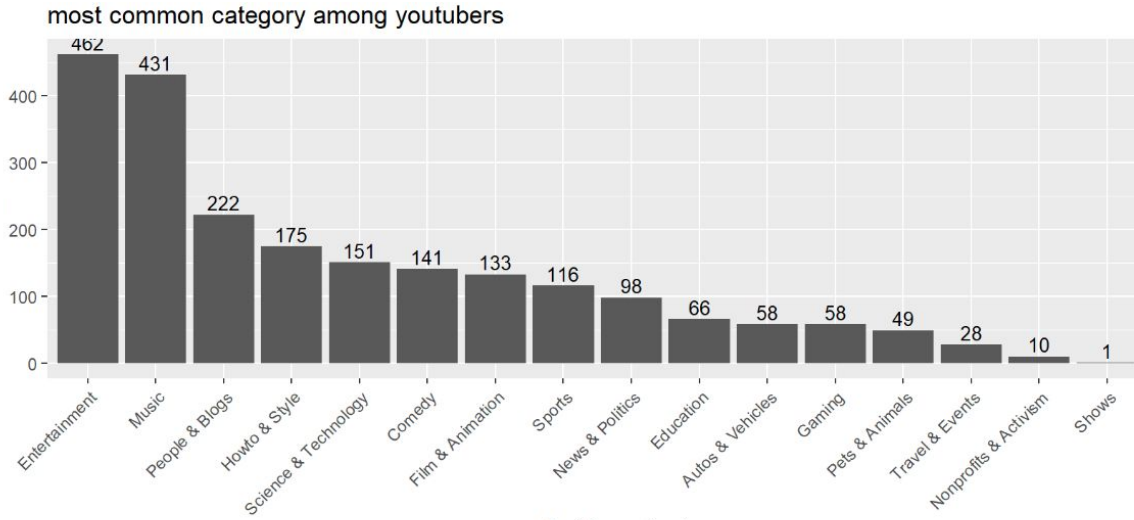
Channel Views: Matthew Effect

Winner takes all!

The top 3 amasses more and more views while the flailing ones lose on attention.



Top Trending Video Categories



50%

focus on

- **Entertainment**
- **Blogs**
- **Music**

videos are often in the trending charts.

Engagement Score

Engagement Score

Why do we need it?

To help our client understand viewer's engagement and strategize video content to make highly trending and engaging videos.

What does it do?

- Balances consideration of Likes/Dislikes, Comments, Views , Tags, Title
- Focuses on user interaction
- Quantifies easily with a weighted formula

Youtube information: <https://support.google.com/youtube/answer/7239739?hl=en>

Formula

$$\text{Engagement score} = \log_2$$

$$\left(\begin{array}{ccccc} 50 & 20 & -5 & 10 & 5 \\ \times & \times & \times & \times & \times \\ \text{Comments} & \text{Likes/} & \text{Age} & \text{Views} & \text{Views} \\ & \text{Dislike} & & \text{Increment} & \end{array} \right)$$

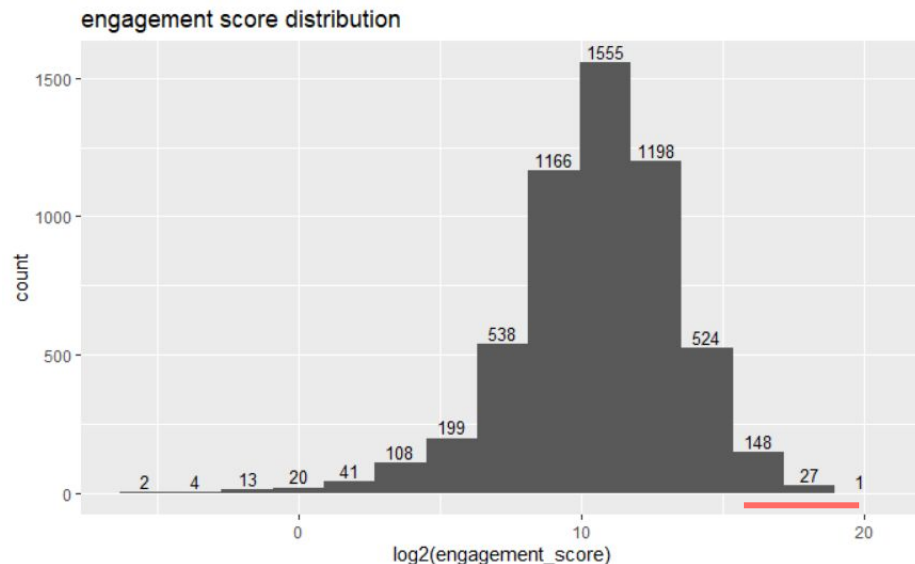
Videos Engagement Scores

<25%

have high engagement scores

These rare videos are the true "viral" and have the **highest marketing potential**

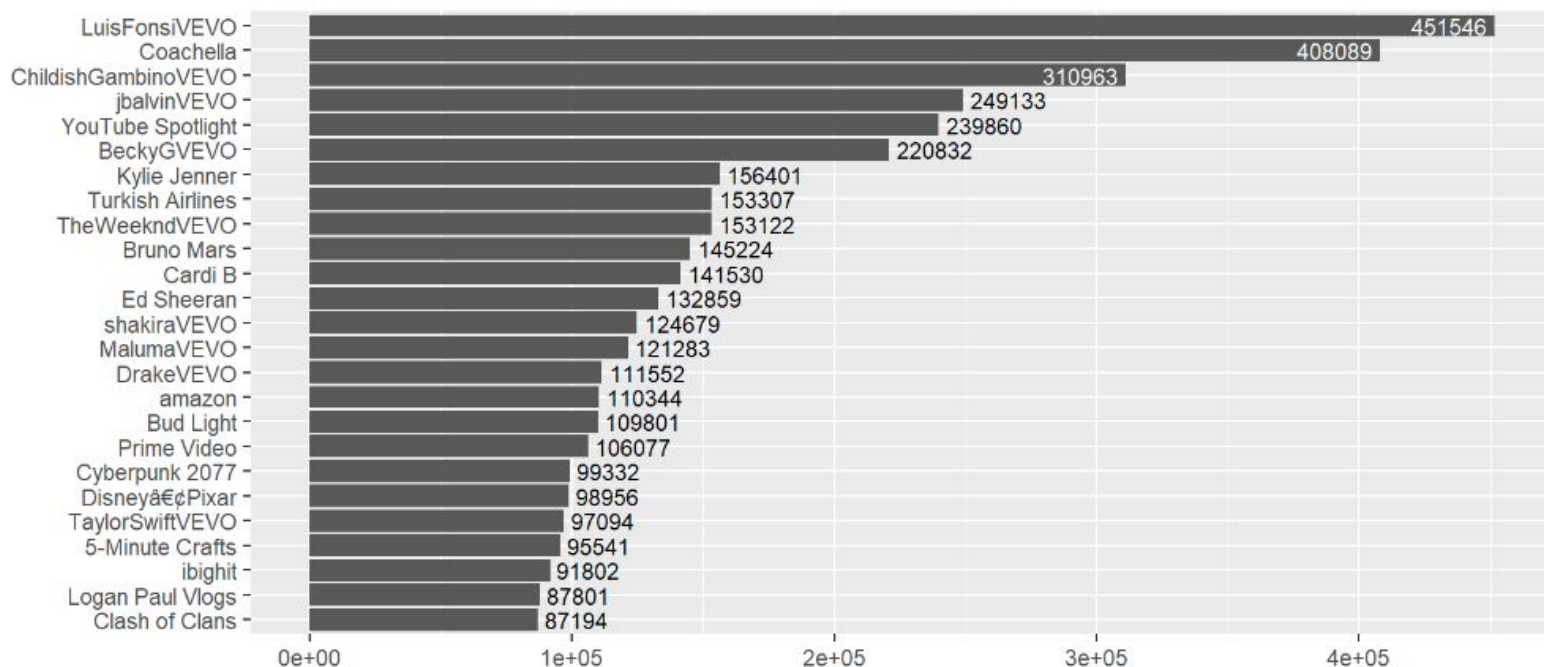
Despite the **high views**, many videos turn out to have **low engagement**



Individual Youtubers Analysis: Average

Music artist take the lion share while **bloggers** come in **second**, followed by daytime TV show's channels while comparing **average engagement score**

top youtubers with highest average engagement score



Recommendations

Recommendations

- ❖ Post original content
- ❖ Produce music with subject matter related to comedy, current events and talk-shows
- ❖ Cooperate with other youtubers, the famous the better
- ❖ Build videos around a single keyword/topic
- ❖ Engage with your audience by encouraging action: comment, like
- ❖ Use tags to define video genre for search optimization
- ❖ Highlight exclusivity with title. Use words “official” and “ft”
- ❖ Aim for likes and comments, rather than views

YouTube Video Example: Cosmic Comics Channel



Cosmic Comics

John creates video
comics

Title: Cosmic Comics Official - Waiting for the Bus

Tags: show, video, funny, new, comedy

Genre: entertainment



YouTube Video Example: Jane the Musician Channel



Jane the Musician

Musician

Title: New Music Video Official - Sunshine

Tags: video, new, comedy, music

Genre: music



Limitations

Limitations

- ❖ Duration of the video
- ❖ Data on viewers behavior
- ❖ Algorithm recommendation insights
- ❖ Marketing budget unequal
- ❖ Video category
- ❖ We don't have enough information for predictive analysis
 - Recommendations based only on descriptive analysis
 - Some video don't have a tag

Thank You for Listening!

Does anyone have any questions?

Team 2

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Appendix- Correlation Matrix for all videos

