Youtube Analytics

YouTube

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AGENDA

PART 1
INTRODUCTION &
BUSINESS CASE

PART 2
DATA
OVERVIEW &
PREPARATION

PART 3
DATA ANALYSIS
&
ENGAGEMENT
SCORE

PART 4
RECOMMENDA
TIONS

PART 5
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	DATE	TEXT
channel_title video_id	trending_date publish_time	title description tags

CATEGORY	NUMBER	BOOLEAN
category_id	Views Likes/dislike comment_count	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		**6,351**	**2,199**	**32**
X		X	X	X
16		**45**	**39**	**5**

generate

original	→	video set	youtuber set	category set
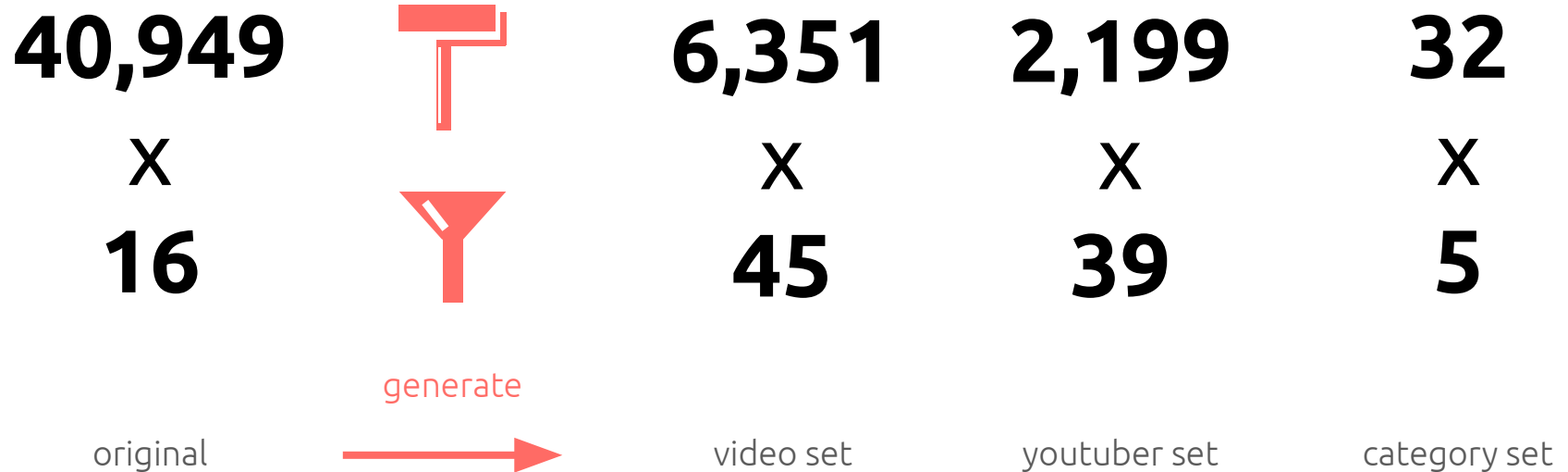
Data Analysis

Video
YouTuber
Category

Days a Video is Trending

88% of videos trend

>1 day

Most videos take about
1 week
in the trending zone

How many days a video is trending
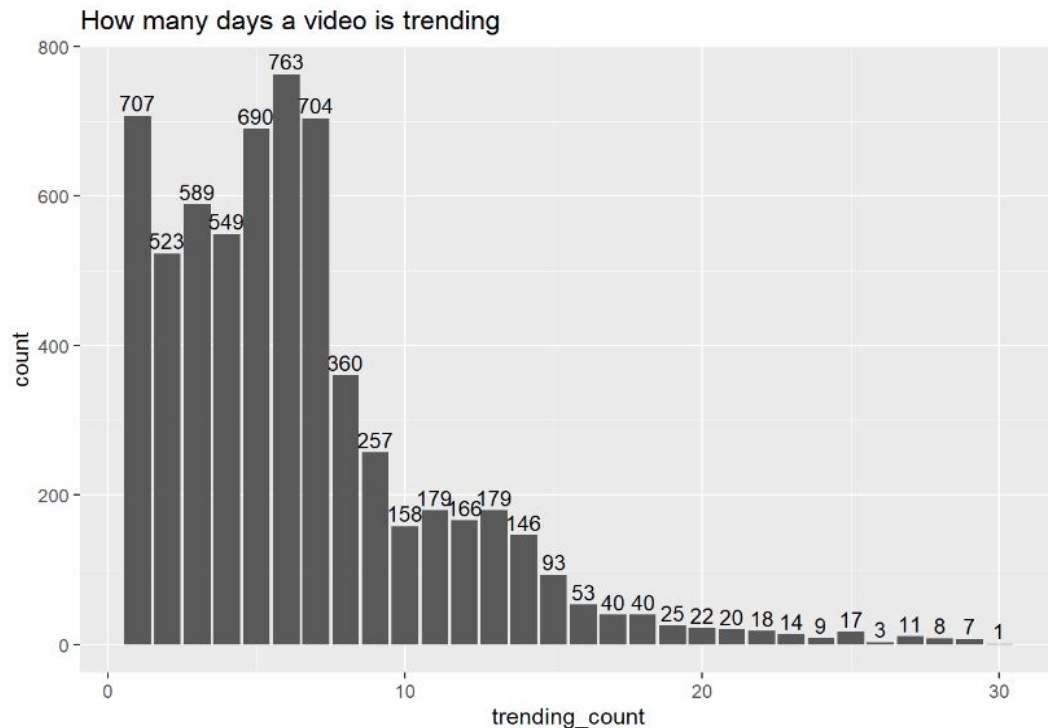
Engagement Through Likes

Less than

5%

click **like/dislike**

2.5%

Comment

percentage of like interaction distribution

19

Days Until Trending

how many days until trending log2
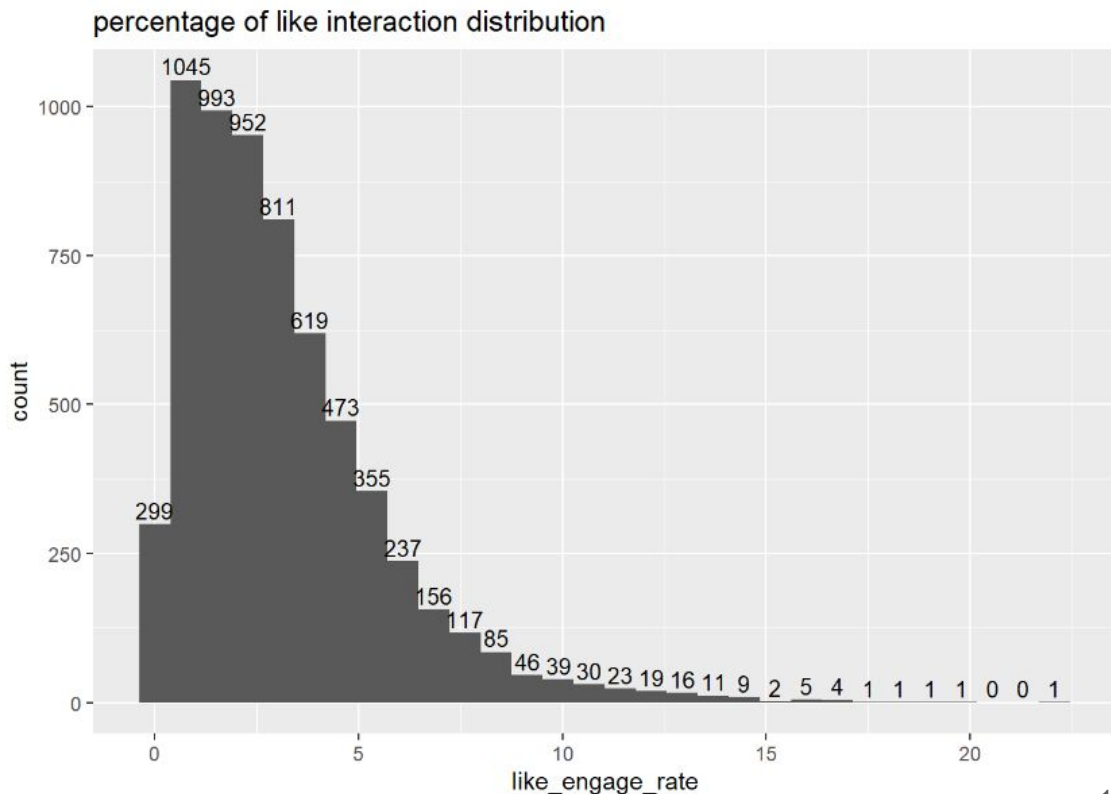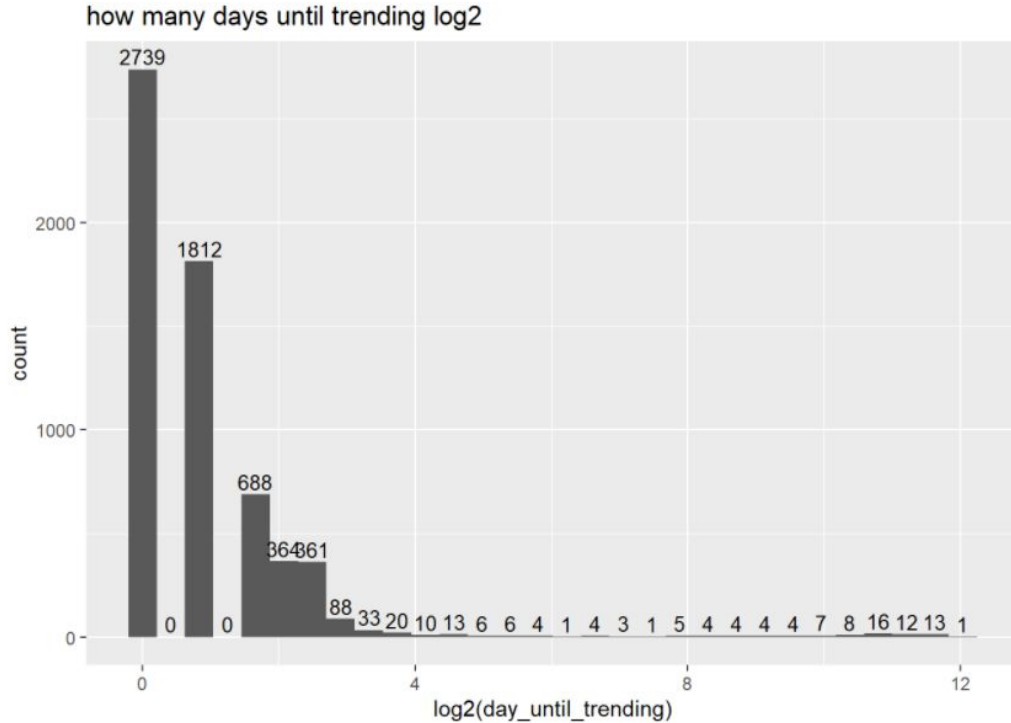
1-2

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

category distribution

Trending Video Text Word Cloud

Title

Description

Tags

Trending Video Text Analysis: **Title**

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

Tags	
official	489.0
"2018"	364.0
video	317.0
trailer	276.0
"2017"	179.0
vs	170.0
ft	155.0
live	144.0
first	140.0
hd	139.0

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.

Tags	
Video	2,937
Subscribe	2,689
us	2,448
twitter	2,373
music	2,284
facebook	2,264
videos	2,214
new	2,186
instagram	2,185
show	2,158

Links to the other videos on the channel are the most common. Twitter, Facebook and Instagram are the most common cross platform links.

24

Trending Video Text Analysis: **Tags**

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

Tags	
show	1,424
videos	1,391
funny	1,348
news	1,138
new	1,031
makeup	978
"2018"	953
music	891
comedy	886
late	760

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

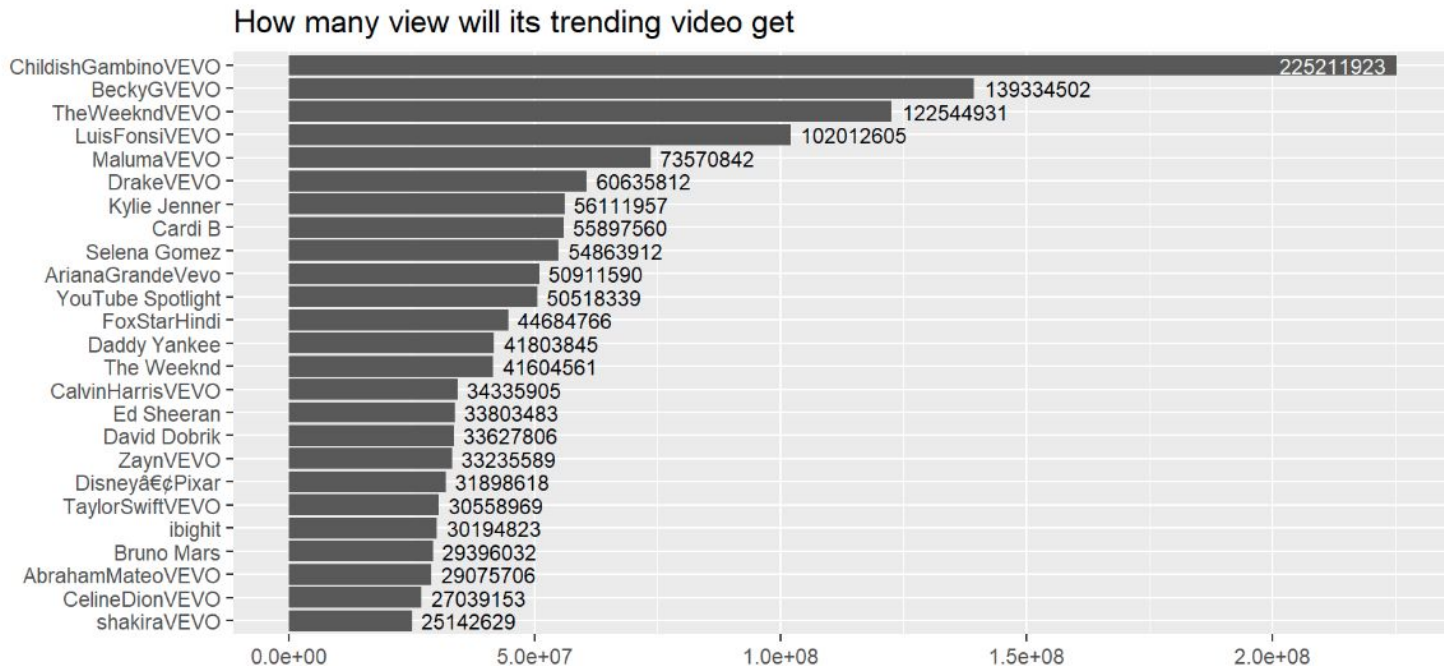| Channel	Type
ESPN	company
TheEllenshow	company
The Tonight Show Starring Jimmy Fallon	company
Jimmy Kimmel Live	company
Netflix	company
The Late Show with Stephen Colbert	company
NBA	company
CNN	company
Vox	company
The Late Late Show with James Corden	company
BuzzFeedVideo	company
Refineery29	company
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

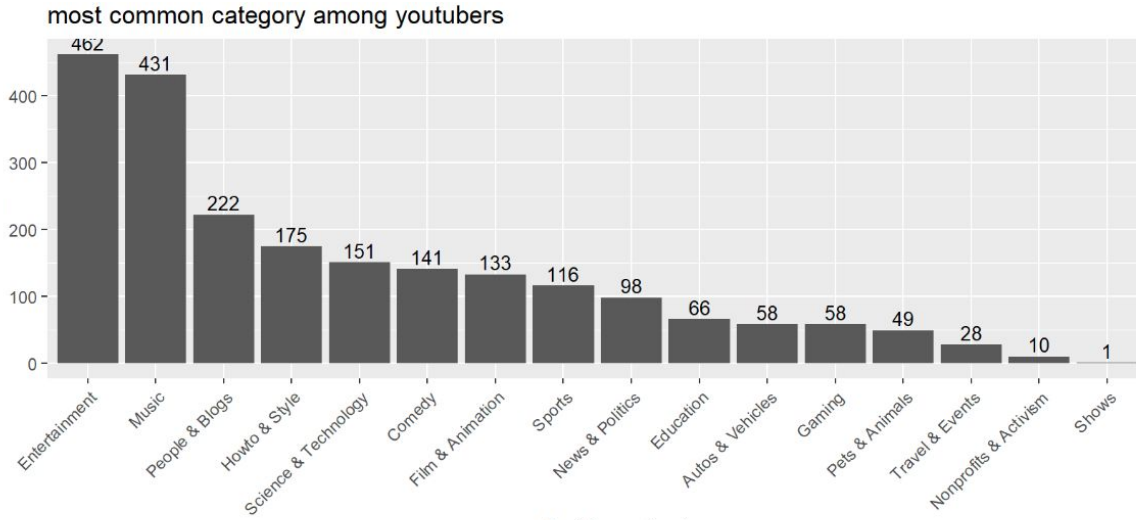| Channel	Type
FBE	company
Life Noggin	company
screen junkies	company
Vogue	company
Tom scott	personal
warner bros pictures	company
bon appetit	company
Good Mythical Morning	personal
jacksfilms	personal
ABC News	company
Healthy JunkFood	personal
Marques Brownlee	personal
TED-Ed	company
Vanity Fair	company
NBC News	company
The Kingof 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.

How many view will its trending video get

Channel	Views
ChildishGambinoVEVO	225211923
BeckyGVEVO	139334502
TheWeekndVEVO	122544931
LuisFonsiVEVO	102012605
MalumaVEVO	73570842
DrakeVEVO	60635812
Kylie Jenner	56111957
Cardi B	55897560
Selena Gomez	54863912
ArianaGrandeVevo	50911590
YouTube Spotlight	50518339
FoxStarHindi	44684766
Daddy Yankee	41803845
The Weeknd	41604561
CalvinHarrisVEVO	34335905
Ed Sheeran	33803483
David Dobrik	33627806
ZaynVEVO	33235589
Disneyâ€¢Pixar	31898618
TaylorSwiftVEVO	30558969
ibighit	30194823
Bruno Mars	29396032
AbrahamMateoVEVO	29075706
CelineDionVEVO	27039153
shakiraVEVO	25142629

Top Trending Video Categories

most common category among youtubers

Category	Count
Entertainment	462
Music	431
People & Blogs	222
Howto & Style	175
Science & Technology	151
Comedy	141
Film & Animation	133
Sports	116
News & Politics	98
Education	66
Autos & Vehicles	58
Gaming	58
Pets & Animals	49
Travel & Events	28
Nonprofits & Activism	10
Shows	1

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

Engagement score = log2

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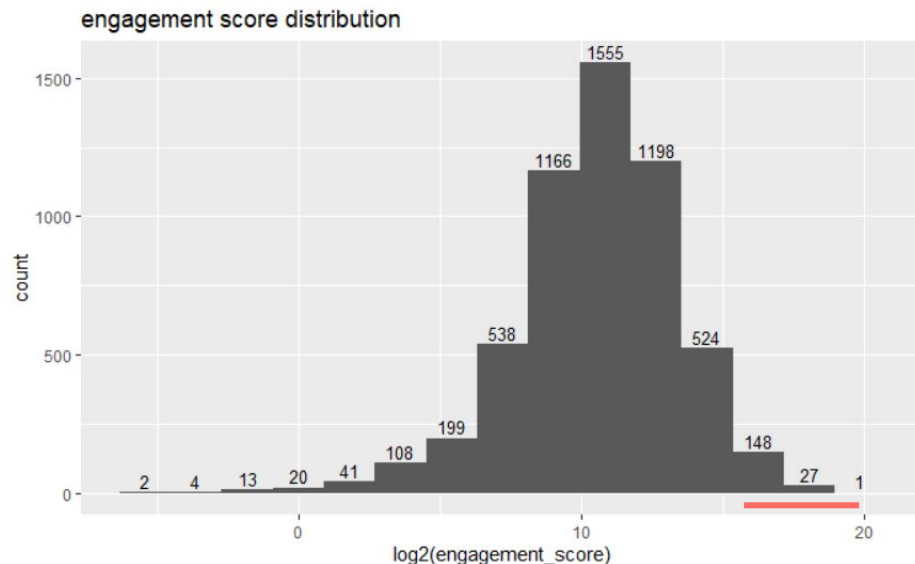
Videos Engagement Scores

<25%

have high engagement scores

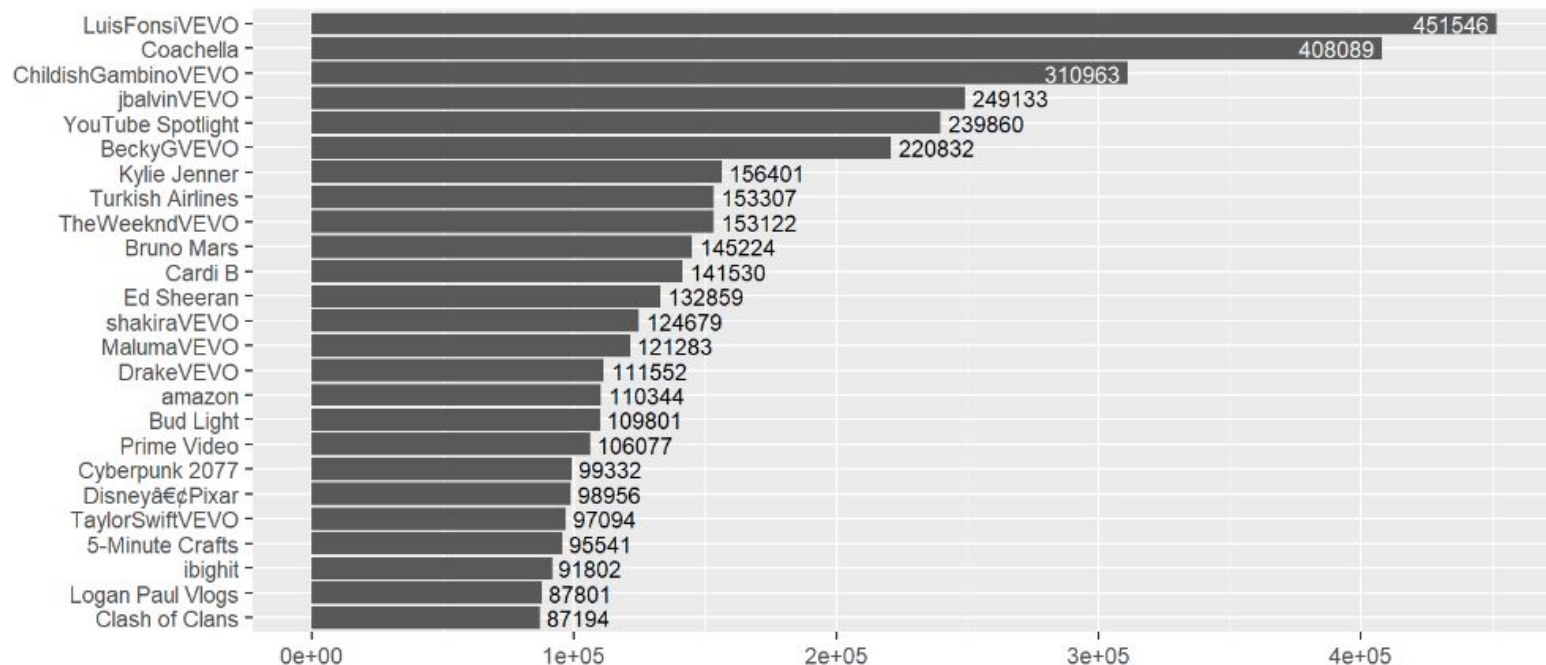These rare videos are the true "viral" and have the highest marketing potential

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

engagement score distribution

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

Youtuber	Score
LuisFonsiVEVO	451546
Coachella	408089
ChildishGambinoVEVO	310963
jbalvinVEVO	249133
YouTube Spotlight	239860
BeckyGVEVO	220832
Kylie Jenner	156401
Turkish Airlines	153307
TheWeekndVEVO	153122
Bruno Mars	145224
Cardi B	141530
Ed Sheeran	132859
shakiraVEVO	124679
MalumaVEVO	121283
DrakeVEVO	111552
amazon	110344
Bud Light	109801
Prime Video	106077
Cyberpunk 2077	99332
Disneyâ€¢Pixar	98956
TaylorSwiftVEVO	97094
5-Minute Crafts	95541
ibighit	91802
Logan Paul Vlogs	87801
Clash of Clans	87194

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?

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Appendix- Correlation Matrix for all videos