

## **Improving Chances of Trending on YouTube**

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Technical assignment: Data Analytics Intern

## Improving Chances of Trending on YouTube

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## Introduction



YouTube – is the most dominant social platform (Suciu, 2021). The Google’s platform presents a daily selection of videos inside the Trending Tab, specific to the viewer’s country region. In fact, the list is updated every 15 minutes (YouTube Help, 2022). YouTube’s pick aims to combine popularity with novelty. According to YouTube Creators, 2018a, the algorithm pays attention to the view count on the video, especially the rate of growth in views; therefore, a broadly appalling and shareable video has more chances of being listed.

Content creators are interested in being included in the list. According to Alexander, 2019, the videos receive a significant drive in views after being listed. Google has not published a complete guide on how the algorithm selects videos. It is possible that even YouTube executives do not know how the algorithm exactly works because it has been derived by the machine. However, knowing the inputs and outputs there is a possibility to predict how the algorithm will work. Company N is interested in gaining a competitive advantage by better understanding the algorithm. Currently, the company’s N channel has a lot of potential to grow. The goal is to find insides for the business team to help them make more intelligent decisions in managing the channel.

## YouTube Categories

Company N operates in the financial technology sector. Choosing from the provided categories by TechPostPlus, 2019, the company N suit:

**"Science & Technology".** Company N has a broad blog section about technology on the main website. The company can multiply the existing content views by transforming the content into video format and posting it on YouTube. A successful tech blog significantly boosts the company's public image by showing an understanding of modern trends (Ron, 2020). The shareable video content may spread the brand awareness directly to the customers.

**"Comedy"... maybe.** Comedy is one of the most viewed categories on YouTube (Ipsos Connect, 2016), and is accessible to everyone. "By using humour, we allow great ideas to come from anywhere. Humour breaks down barriers, and people end up having creative ideas." - C. Harding (Williams, 2016). Although the category is also the most shareable, especially in the Shorts format, the sense of humour is personal. No company would like to be associated with offensive humour or a Michael Scott vibe.

In summary, "Science & Technology" is the best category to focus the research on.



## Theories

There are numerous theories about how the YouTube Trending algorithm selects the videos. Some of them are bizarre, while others are convincing. Luckily, some of the ideas are supported with the research. Romans made a list of several intriguing theories. The list begins with the positive ideas, leading to the darker conspiracy theories.

**Theory 1: Views, likes and dislikes matter the most.** YouTube has directly noted that the algorithm pays attention to the view count (YouTube Creators, 2018a). However, according to Stephen, 2019, these are not important factors for Trending based on input/output data analysis. Findeisen's thoughts are quite intuitive because the content views vary from 150,000 to 20,000,000 in Trending Tab. Romans' opinion is that this is a rabbit hole because, thinking critically, there is not so much information about the distribution of the views by the region. The viewers' regional distribution is private information available only for the channel owner (Wilkinson, 2018). Hence, there is no proof for a solid reason for disbelieving YouTube's statement.

**Theory 2: Audience retention matters.** According to one research (Video Influencers, 2019), 03:00 to 06:00 minute long videos have performed the best in views. Platform users will be less likely to watch the long videos, although they would have more time to understand the content deeper without a rush. The best video length to be suggested by the YouTube algorithm is 10:00 to 15:00 minutes (Video Influencers, 2019). Some suggest varying video lengths may improve the channel performance (Video Influencers, 2019). Besides, the total raw watch minutes figure is more important than the average percentage of the retention for the video, according to YouTube Creators, 2018b. In other words, the longer is watch time means better is the video itself, no matter how long. YouTube Creators suggest having an extra bonus at the end of the videos to retain viewers and let them watch more.

**Theory 3: Keywords are crucial on YouTube.** According to Brown, 2019, the smart keyword choice can grow YouTube ranking, video views and subscriber counts. The

key to keyword optimization is to analyze the YouTube Search traffic (Brown, 2019). For example, if the tech enthusiasts are more likely to begin a query with "Top" rather than "Best", then it will be better to name a video "Top 10 Reasons to Love Open Banking" rather than "Best 10 Reasons to Love Open Banking". However, audience retention has much more importance than tags, according to Johnson, 2020.

**Theory 3: Device targeting matters.** Shorter videos tend to perform better on mobile. Besides, the younger audience most likely watches videos using phones, while the elder audience prefers tablets and TV.

**Theory 4: Improved past performance raises the chances.** In other words, some people claim that if any channel's new video receives x-times more views than previous video, it has x-times better odds of being included in the list. One research shows that there is no correlation (Stephen, 2019).

**Theory 5: Google linked the YouTube algorithm with the Google Search.** According to Stephen, 2019, there is no significant correlation either.

**Theory 6: YouTube avoids listing controversial content.** Some people claim that edgy content creators are underrepresented. For example, Joe Rogan content has 29 less chance to be included in the Trending Tab in the United States than in Canada (Stephen, 2019). The reason is probably his critique addressing the California state government (Sheet, 2022).

**Theory 7: YouTube Trending is unfair.** According to Alexander, 2019, traditional media such as Jimmy Kimmel, Netflix and Vox are overrepresented in the Trending Tab. This category of channels requires fewer views to be listed. In fact, "News & Politics" is the most challenging category to compete in: about 95% taken by traditional media (Stephen, 2019). Moreover, other channel categories should receive about 15 times more views to be listed. Professional media are specialized in being broadly appalling and shareable, even though late nights and news channels occasionally broadcast shocking content, dark humour and lots of bleeped swearing. There is nothing wrong with when a

business has mastered hitting the Trending Tab steadily based on the YouTube Creator’s advice. Even so, YouTube developers are aware of these remarks. Now, they secure at least one-half of the Trending Tab for original content makers (Creator Insider, 2020), although they did not mention how exactly.

**Theory 8: YouTube Trending Tab is corrupt.** According to Creator Insider, 2020, YouTube does not receive direct payments and provide access for engineers to manipulate the list – the allegations are a myth. Alternatively, it is legal to buy human views from third parties (“Best websites to buy YouTube views and likes 2022,” 2022). However, the cost of millions of views is unreasonably expensive. Moreover, when Google decides that views are not people’s views, the platform removes the video and punishes the channel with a strike.

**Theory 9: There exists a sweet timing for YouTube Trending.** The idea that the YouTube algorithm has a universal cheat-timing is rather doubtful. On the other hand, knowing the target audience so well to determine the optimal uploading time will definitely benefit the channel (Creator Insider, 2020). There is definitely a correlation between wise timing management and hitting Trending. YouTube Creators advise uploading regularly and becoming a part of viewers’ life - their schedules (YouTube Creators, 2018b).

## Data

Four csv datasets are available for analysis:

- `categories.csv` contains YouTube categories mapped by id
- `CAvideos.csv` contains history of YouTube Trending Tab for the Canada viewers
- `GBvideos.csv` contains history of YouTube Trending Tab for the UK viewers
- `USvideos.csv` contains history of YouTube Trending Tab for the US viewers

## Categories

The category dataset contains 163 categories structured as a 3" tree. The dataset has been appended until 169 by the general, derived categories. For the convenience, the data structure has been transformed into the:

- *category\_id*: int32
- *parent\_id*: int32
- *root\_id*: int32
- *category*: string
- *parent*: string
- *root*: string

## Trending Tab history

‘ The author decided to concatenate the three trending datasets into the main dataset. Not all information in the dataset appeared practical. The main dataset contains 25064 entries. The author decided to keep several transformed columns:

- *video\_id*: string



- *category\_id*: int32
- *title*: string
- *description*: string
- *tags*: string

### Pathfinding

There are several variables that the company N can use to improve YouTube. There is no doubt that two crucial variables are video content quality and volume. Other variables such as promotion, thumbnails and search keywords are supreme but not as effective as being a great producer. Based on the given data, the data analyst may find a piece of advice on how to make an impact with trendy keywords and thumbnails. Unfortunately, the author is not competent enough to produce a visual thumbnail analysis; however, he is capable of finding the meaning in the textual data.

### Hypothesis

**Successful videos have special keywords.** If an editor calls viewers to subscribe in the description, it should help the channel receive more attention.

### Categories

Since "Science and Technology" is the most suitable category for company N, the author will group the results specifically for this category. These categories are: [300, 301, 302].

## Results

### Popular keywords in the description

1. video: 16556
2. subscrib: 12855
3. new: 10064
4. channel: 8166
5. show: 7551
6. twitter: 7318
7. facebook: 7085
8. music: 7047
9. episod: 6709
10. use: 6418
11. get: 6160
12. watch: 6092
13. instagram: 5274
14. like: 5073
15. product: 4710
16. make: 4285
17. full: 4155
18. game: 3699

19. follow: 3611

20. full: 4155

21. latest: 3016

22. best: 2931

### **Popular keywords in the tech video description**

1. video: 1270

2. get: 508

3. use: 498

4. music: 494

5. iphon: 416

6. credit: 396

7. new: 391

8. smartphon: 389

9. support: 351

10. patreon: 343

11. like 336

12. click 332

13. amazon: 325

14. kevin: 314

15. product: 295

16. thank: 293
17. channel: 291
18. screen: 281
19. life: 254
20. world: 251
21. tech: 236
22. pleas: 234
23. buy: 228
24. gmail: 222

### **Analysis**

Successful videos definitely have special keywords.

Most of the channels call their viewers to subscribe in the description. They also mention the other social media links to diversify their auditory. Most of the video descriptions point to something new, latest and best. There are links to the music used and other episodes in the series. Popular YouTubers get revenue by advertising products; therefore, they probably use the keywords "new" and "best" in a promotion.

Tech channels are more likely to mention tech in the description. They probably advertise tech products more often than other categories. The tech channels are more used to calling for action by telling "get" and "use". Also, tech channels are more polite than other categories by saying "pleas" and "thank" more often.

### **Conclusion.**

According the common practise, the company N should:

- Call viewers to action such as leave a like, comment and subscribe, or visit the main website;
- Mention the blog and other public content;
- Mention all social media links in the description;
- Use keywords: "new", "latest" and "best";
- Be polite;
- But the most importantly, make a good quality and engaging content.

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