How Much Do YouTubers Really Earn?

A Deep Dive into YouTube Channel Analytics!

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1 Introduction

This project analyzes how YouTubers generate income by exploring key metrics that impact engagement, retention, and revenue. Using the YouTube Channel Performance Analytics Dataset from Kaggle, this analysis uncovers trends, engagement drivers, revenue insights, and monetization strategies, providing actionable takeaways for creators.

To provide a clear overview of essential metrics, I've created YouTube Channel Analytics dashboard in Tableau, showcasing some key trends. Before diving into further details, take a moment to explore the dashboard.

2 Dataset Overview

The analysis uses key columns from a dataset with 70 features, including:

- **Revenue Metrics**: Estimated Revenue, Estimated AdSense Revenue, DoubleClick Revenue, YouTube Premium.
- **Engagement Metrics**: Likes, Dislikes, views, Average View Percentage, watch time, YouTube Premium Watch Time, End Screen Click-through Rate, Card Click-through Rate, Video Thumbnail Click-Through Rate.
- **Video Details**: ID, Video Duration, Days Since Publish, Year.

3 Key Insights

3.1 Revenue Trends

Question: How much has this YouTuber earned over the years?
Metric: Revenue across years, calculated by aggregating the yearly revenue.
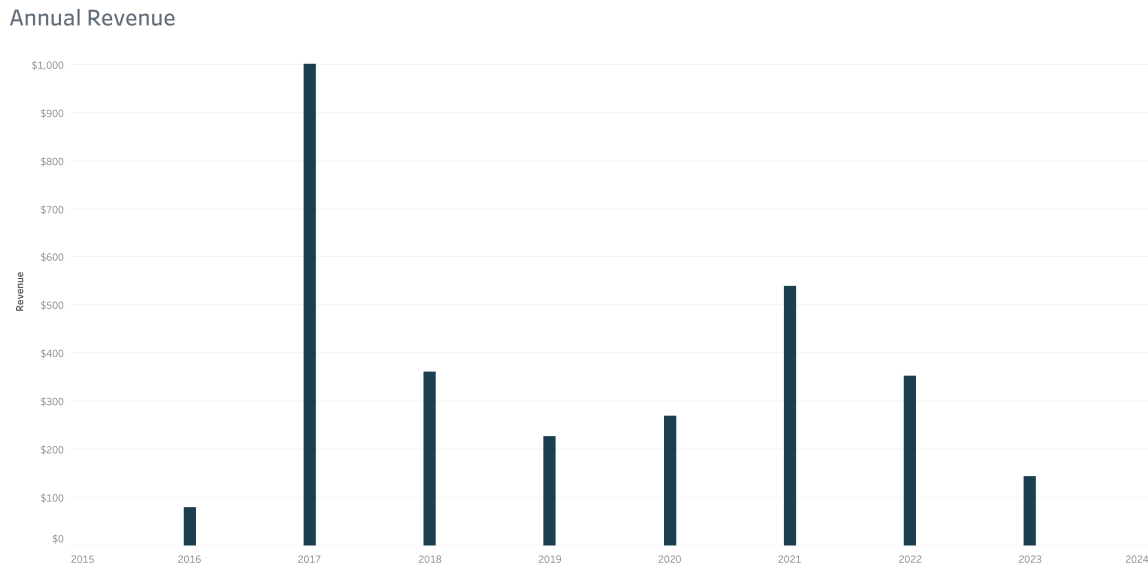**Insight**: Revenue fluctuates significantly over the years.

Figure 1: Highlighting significant fluctuations in revenue, with a peak in 2017 and varying performance in subsequent years.

Question: Why do these fluctuations occur in the revenue trend?
Metric: Annual Revenue vs. published Contents.
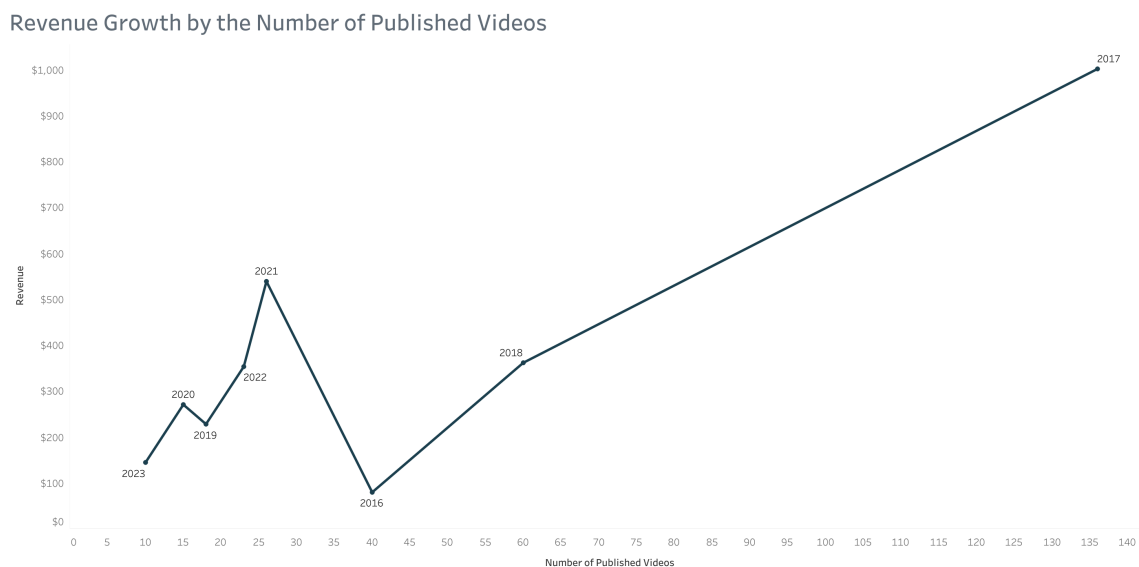**Insight**: Revenue peaks correspond to higher video publishing rates.

Figure 2: Highlighting fluctuations in revenue across years, with a notable peak in 2021.

3.2 From Watch Time to Revenue: Understanding the Connection

Question: What drives the revenue?

Metric 1: Engagement, measured as the average watch time per view for a video.

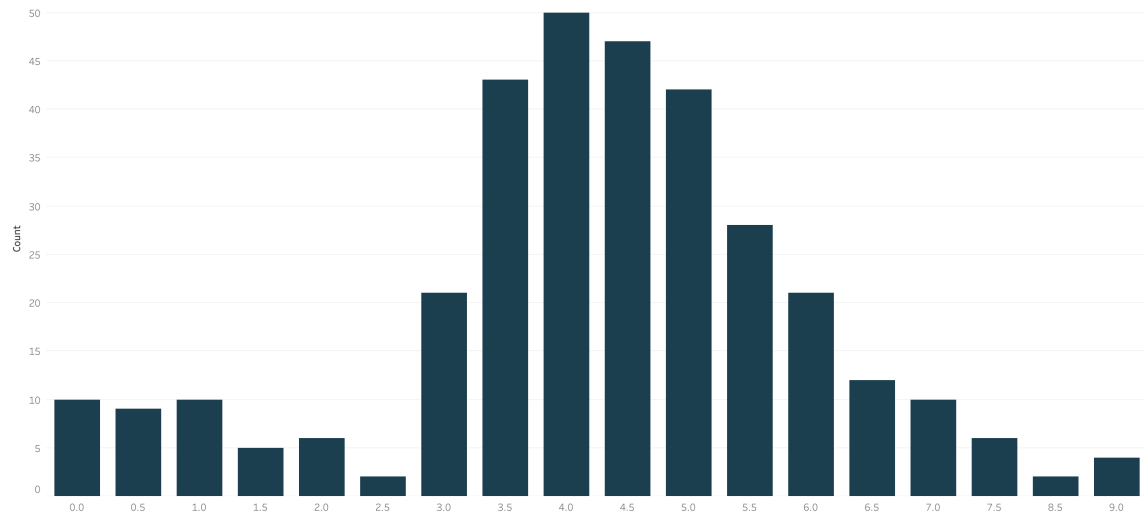**Insight**: Most viewers tend to watch within 3.5–5 minutes.

Figure 3: Engagement peaks around 3.5 to 5 minutes, suggesting this range resonates most with viewers.

Metric 2: Monetization efficiency, measured as the median revenue generated for different ranges of watch time.

Insights:

1. Revenue growth accelerates for videos exceeding 30K watch hours, emphasizing the importance of scaling audience reach.
2. To earn just over $10, assuming an average of 4 minutes of watch time per viewer, a minimum of 30K hours of watch time would require over 450K viewers.
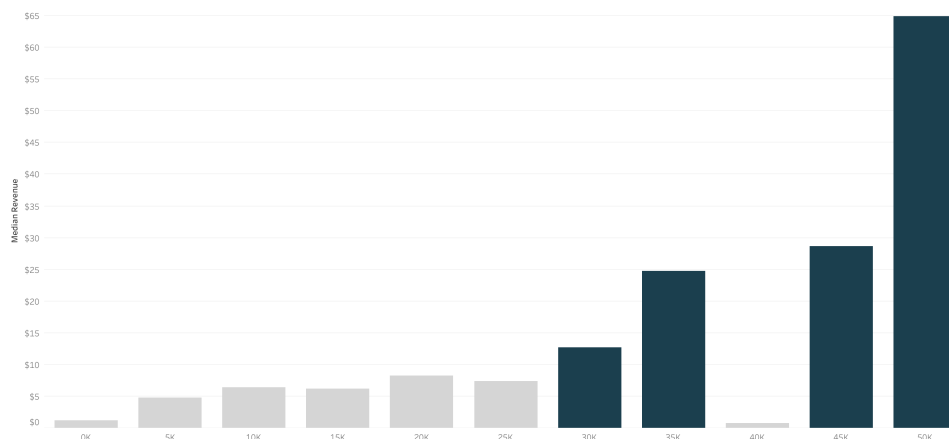

Figure 4: A significant rise in median revenue is observed as total watch time surpasses 30,000 hours, with the highest returns beyond 50,000 hours.

3.3 Unpacking Watch Time: Viewer Retention and Dislike Ratios

Question 1: Do longer videos necessarily result in higher viewer retention?

Metric: Viewer retention, as the average percentage of a video's duration watched, against the video's total length.

Insight: Shorter videos tend to retain viewers for a larger proportion of their total length, while longer videos see retention drop-offs.
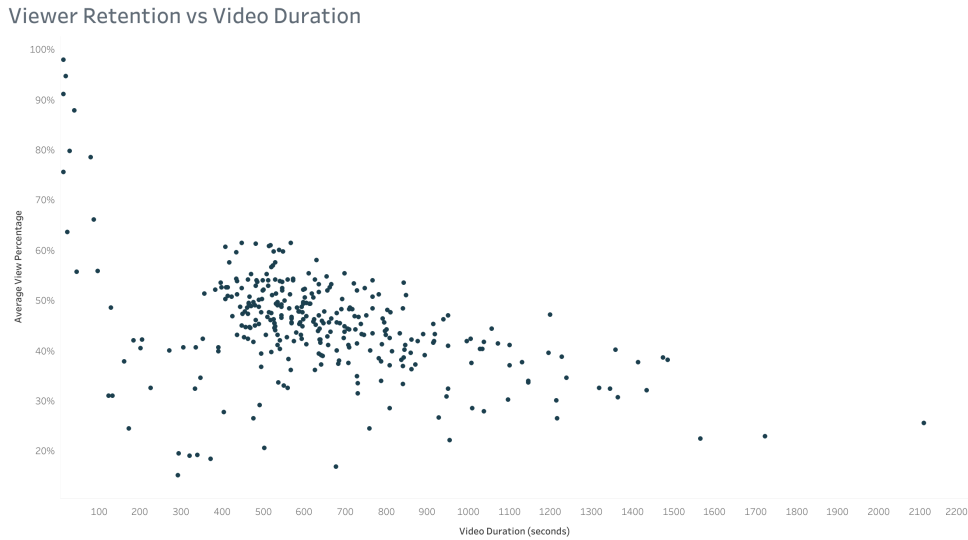

Figure 5: Shorter videos generally maintain higher retention, while longer durations see a gradual decline.

Question 2: Does viewer sentiment lead to an increase in overall watch time?

Metric: Median watch time for different ranges of dislike-to-like ratio, as a measure of viewers' sentiment.

Insights:

1. Videos with positive viewer sentiment, indicated by low dislike-to-like ratios, achieve higher watch times.
2. Interestingly, moderate controversy can also drive significant engagement.
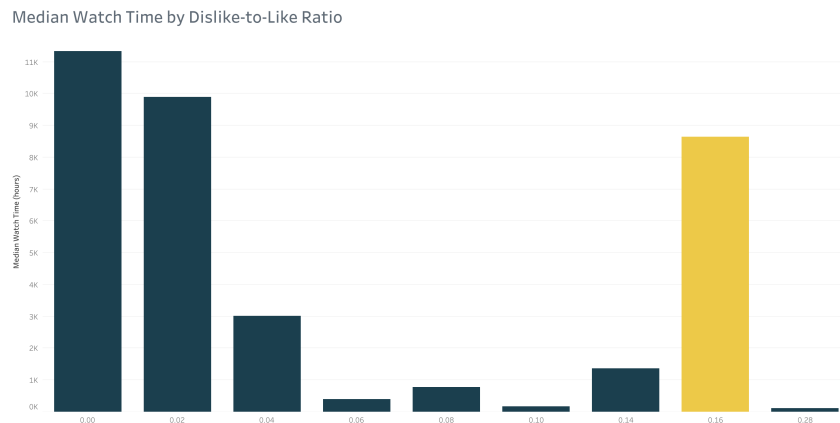

Figure 6: Videos with lower dislike-to-like ratios generally achieve higher median watch times; however, a notable spike suggests that controversy can also attract viewers.

3.4 The Role of Video Features

Question 1: How does engagement differ between cards and end-screens?
Metric: Click-through rate against the number of days since a video's publication.
Insight: Cards outperform end-screens due to their mid-video placement, making them more engaging.
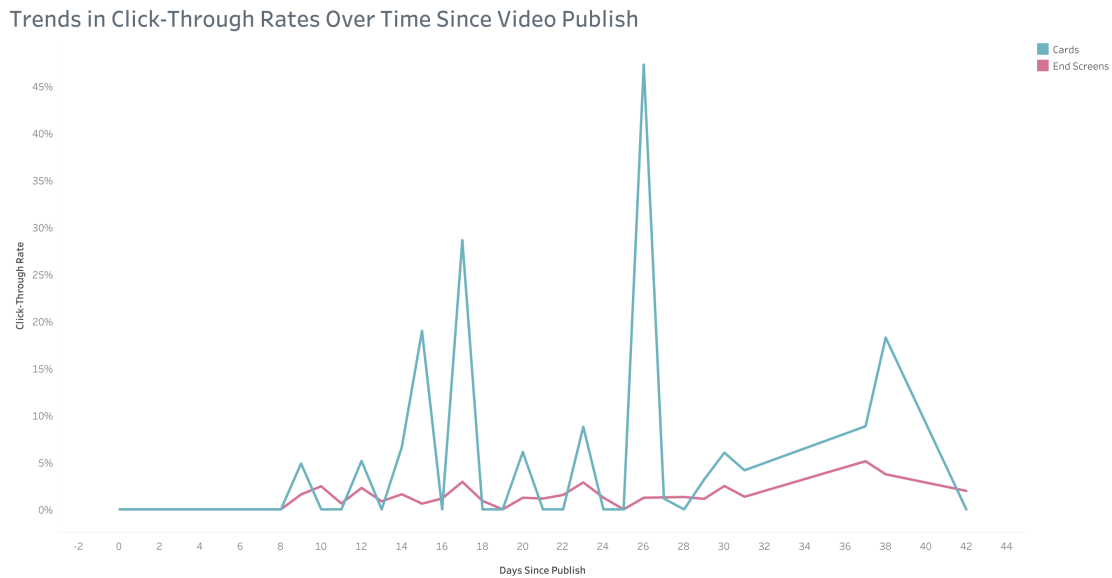

Figure 7: Card click-through rates show significant spikes while end-screen click-through rates remain relatively steady over the publishing timeline.

Question 2: How does thumbnail affect video views?
Metric: Click-through rate across video views.
Insight: Thumbnail design directly impacts initial viewer attraction but saturates with a broader audience reach.
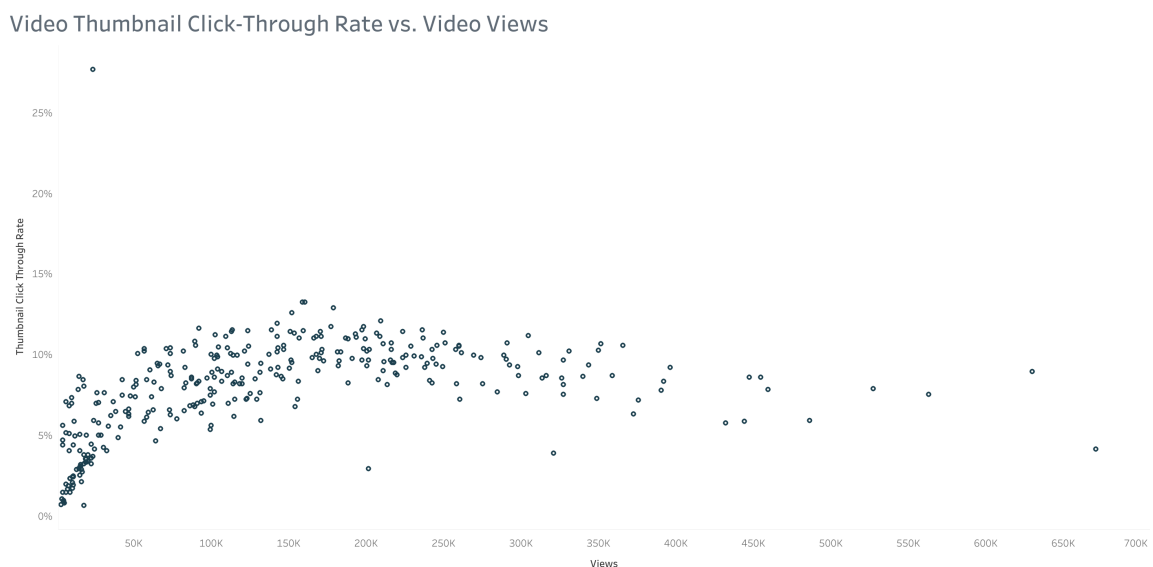

Figure 8: Higher click-through rates are observed for videos with fewer views, while videos with more views tend to stabilize around lower click-through rates.

4 Revenue Streams

Question: How does yearly revenue per hour of watch time differ across Adsense, Double Click, and Premium revenue streams?

Metric: Annual revenue normalized by watch time across the three streams.

Insights:

1. YouTube Premium consistently stands out as the dominant revenue source.
2. AdSense has shown steady growth, particularly after 2018.
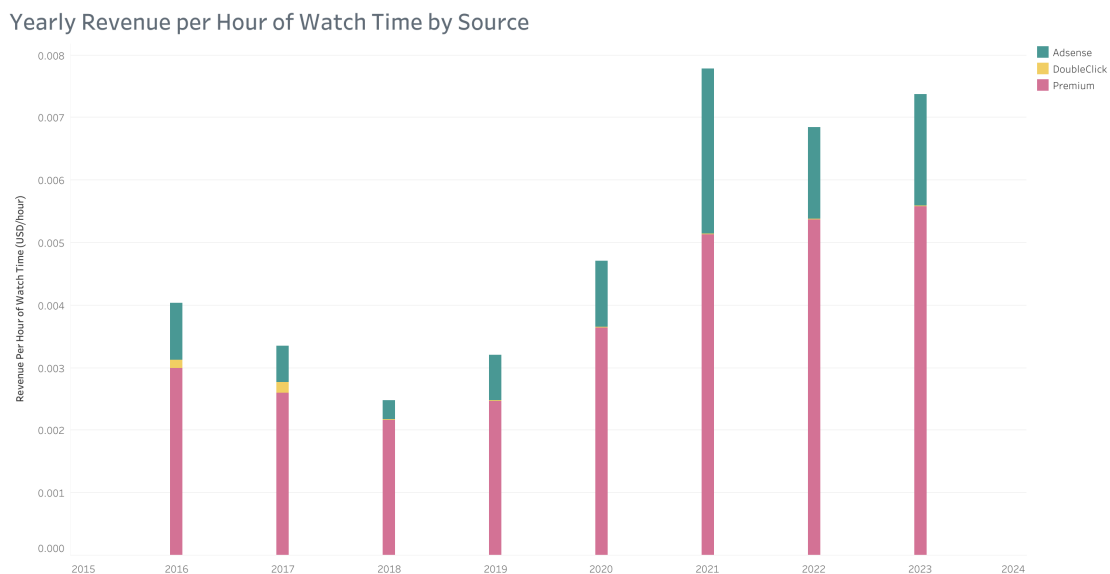3. DoubleClick revenue nearly disappeared after 2017, likely due to shifting ad strategies.

Yearly Revenue per Hour of Watch Time by Source

Figure 9: Premium contributions dominate yearly revenue growth, with AdSense providing steady support and DoubleClick showing minimal impact.

5 Actionable Insights

- **Consistency Matters:** Regular uploads help sustain engagement and stabilize revenue.
- **Keep Videos Engaging**: Create contents that keep viewers engaged longer.
- **Maximize Viewer Retention**: Shorter videos boost retention; longer ones increase ad impressions. Balance for best results.
- **Monitor Viewer Sentiment**: Positive feedback enhance engagement, but moderate controversy can also be effective.
- **Strategically Use Cards and End-Screens**: Place cards at engaging moments and optimize video length to enhance end-screen effectiveness.
- **Optimize Thumbnails**: Design visually striking thumbnails to attract clicks from both niche and broad audiences.
- **Diversify Revenue**: Focus on content appealing to YouTube Premium users while attracting AdSense and DoubleClick advertisers for a stable income.