YouTube Statistics

Daniel Setiawan
NYC Data Science Academy, 11/18

Brief Introduction

- Youtube has mobile traffic dominance at 37%, with TikTok closing in.
- As social media video platforms evolve, our mindset needs to as well.
- Understanding trends allow companies to stay ahead of the market.
- As our consumer base grows, we need to keep up with it using data:
  - Understanding specific trends by country as crucial to business success
  - Understand how timing can play a huge factor in product marketing

Key Objectives

- Learn a lot about global demand on various products
  - Attentiveness
- Which categories should a company invest/allocate resources towards?
- Could we use viral data to predict consumer buying trends?
- What infrastructure requisites are needed to upkeep the data center?
- How does the energy consumption vary geographically?
- How does category-viewership differ between regions, and how can we use this data to make smart business decisions?
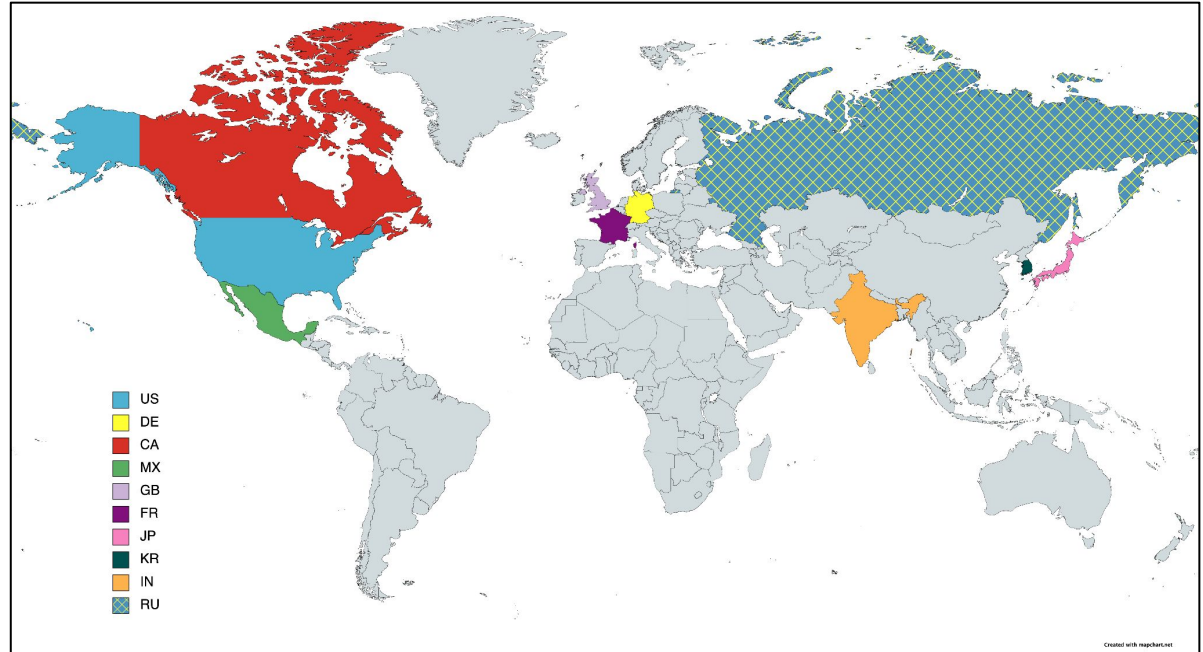
Let's talk data.

11 datasets.

10 countries.

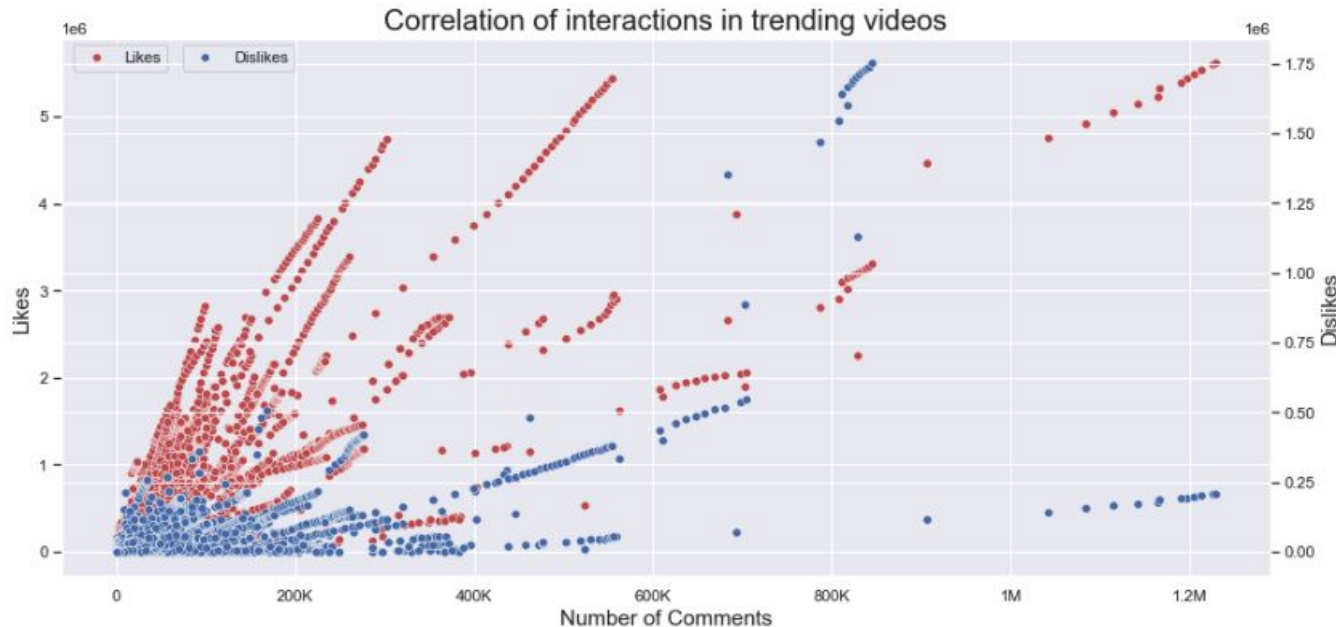**8 months of data.**

~400K observations.

Effective Marketing

Comments vs. Likes

Analysis: Understand how *vocal* consumers are with their interests.

Correlation of interactions in trending videos

What can we learn from this?

- Product marketing should utilize data to understand how engaged people will be based on their opinion
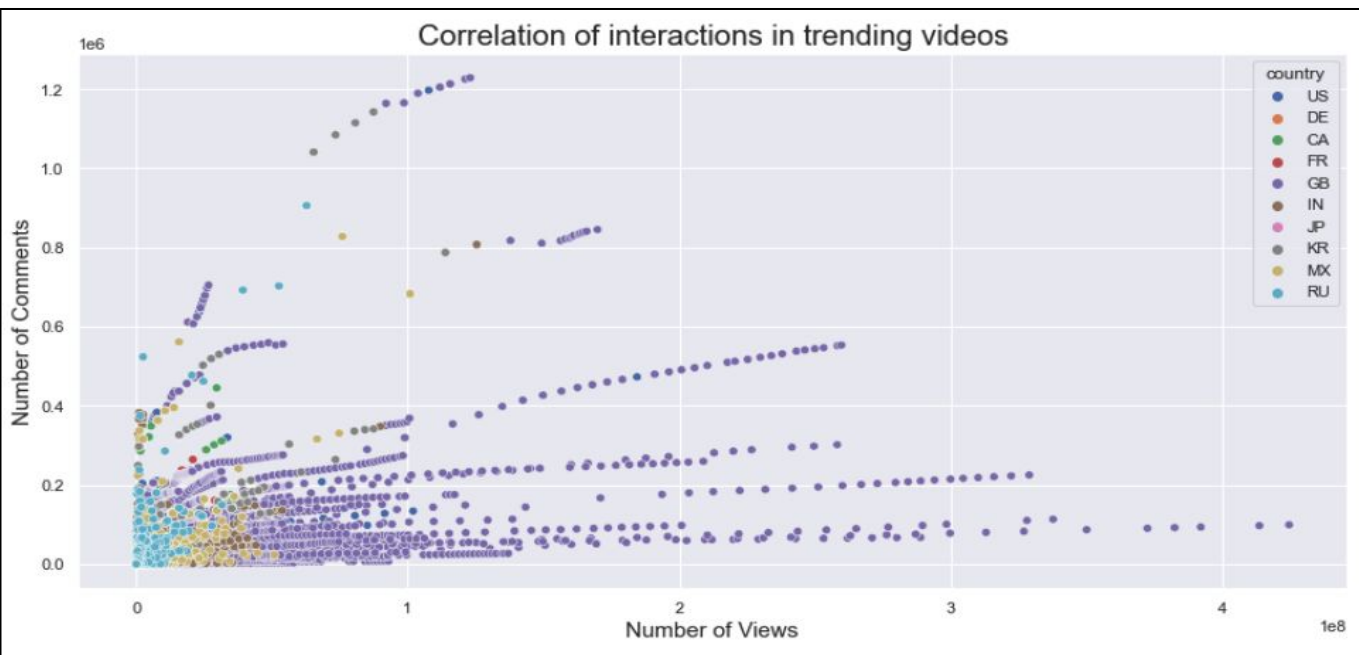
Effective Marketing

Views vs. Comments

Analysis: Understand how *vocal* consumers are with their interests.

Correlation of interactions in trending videos

What can we learn from this?

- Product marketing should utilize data to understand how engaged people will be based on their opinion

- Engagement rates vary by region, and should be taken into account when calculating strategies
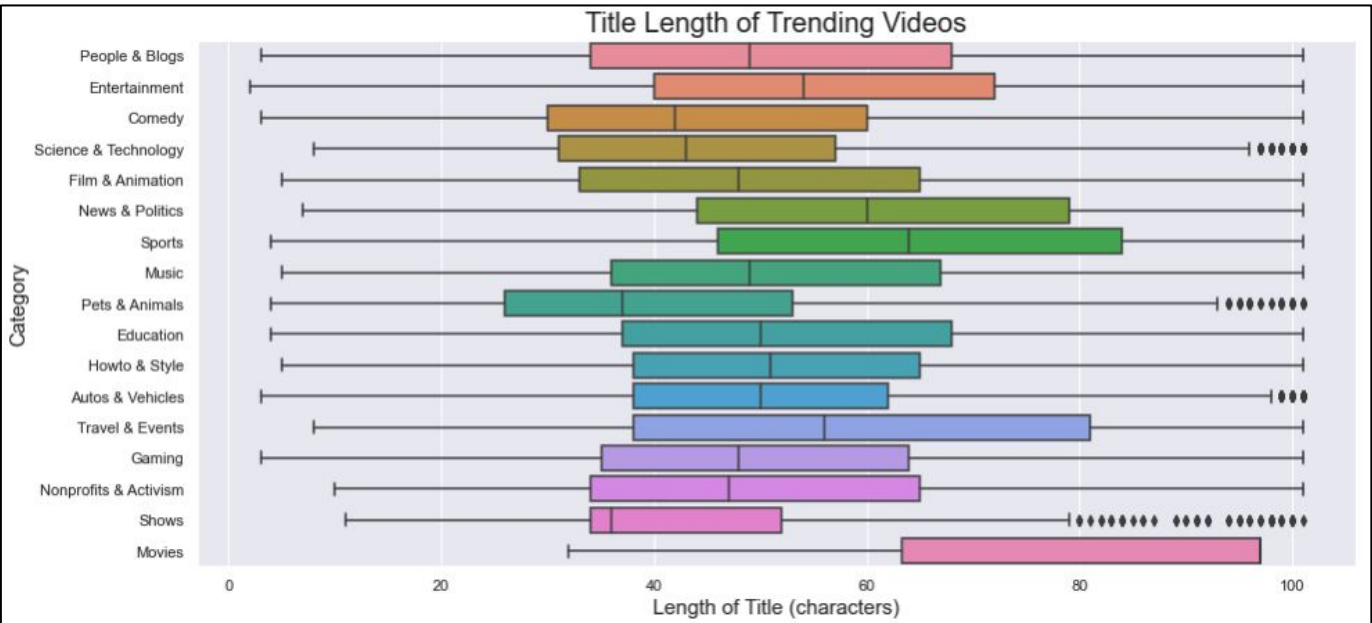
Effective Marketing

Title Length vs. Category

Analysis: Capturing consumer attention in different industries

Pairing data with non-trending videos could allow us to gauge how consumers react to certain categories

Successful video titles can give a company insight on improving their product marketing.

What can we learn from this?

- Consumers have different attentive thresholds / category.
- Enhance product marketing with headline length count
- E-sport events are likely to reel more people in when headlines are ~ 50 letters long
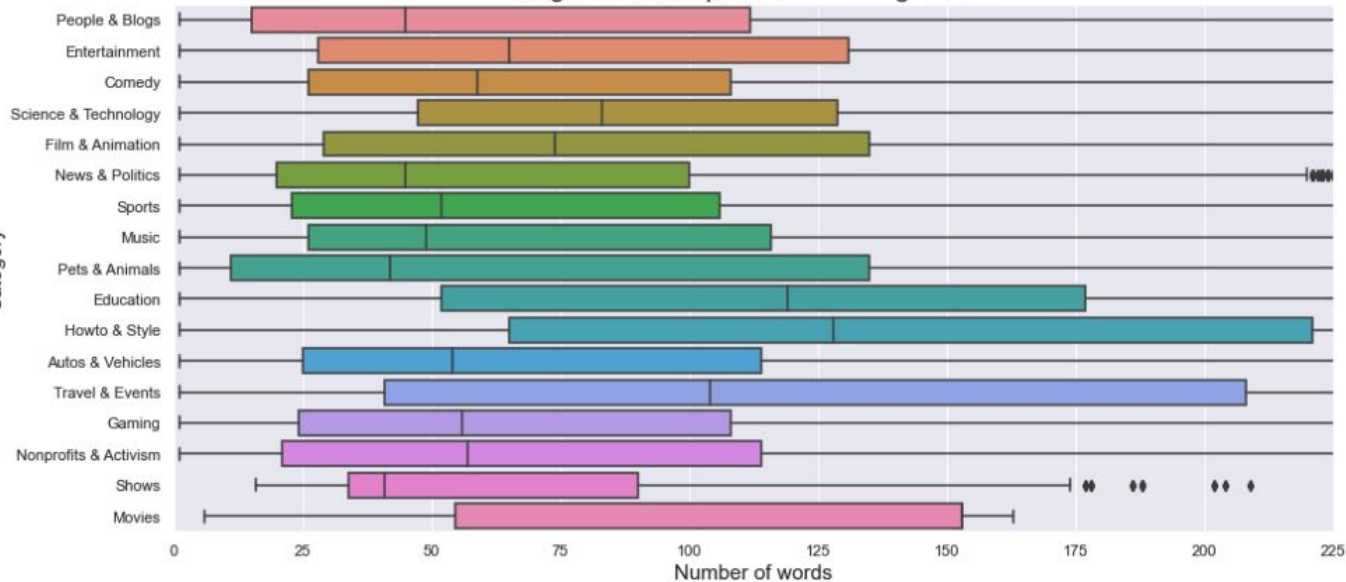
Effective Marketing
Description Length vs. Category

Analysis: Understand the goldilocks of product marketing.

Pairing data with non-trending videos could allow us to gauge how consumers react to certain categories

What can we learn from this?

- Viewers have different thresholds for different categories.
- Helps us understand what captures the viewers attention by category
- E-sport events are likely to reel more people in when headlines are ~ 50 letters long

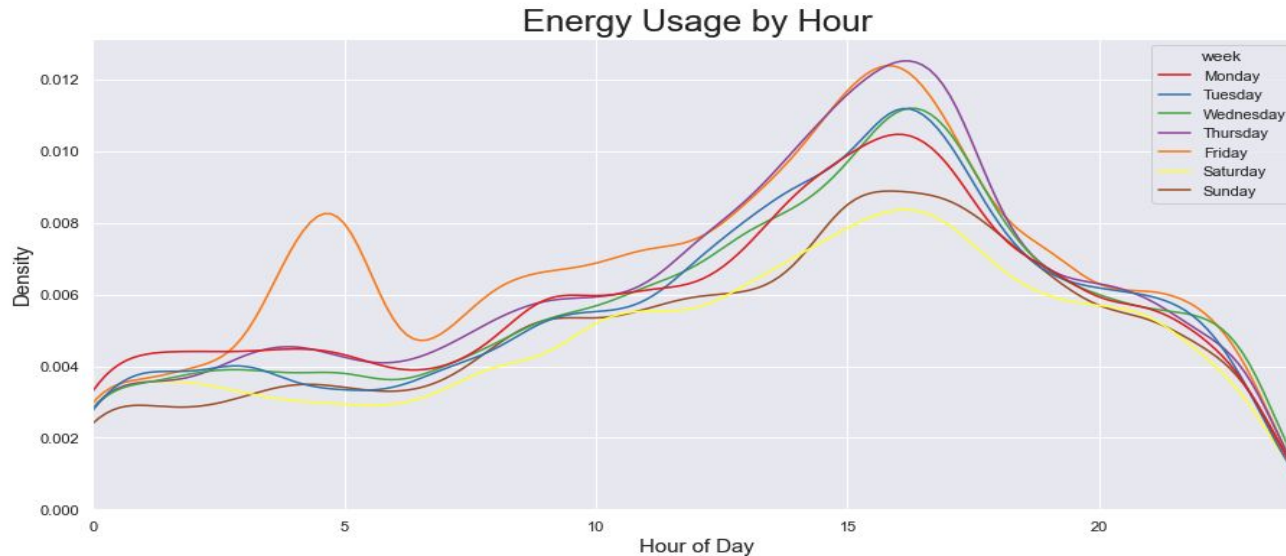Length of Description in Trending Videos

Energy Consumption

Energy usage vs. Density

Analysis: When are consumers more likely to buy certain products?

What type of bandwidth support is needed throughout the week?

When consumers are more relaxed, they're more likely to buy things they don't need

What can we learn from this?

- Online ads can aim to target viewers during peak times in the day when they're most relaxed.

- Data centers can make decisions on which days will have the least impact during equipment maintenance.
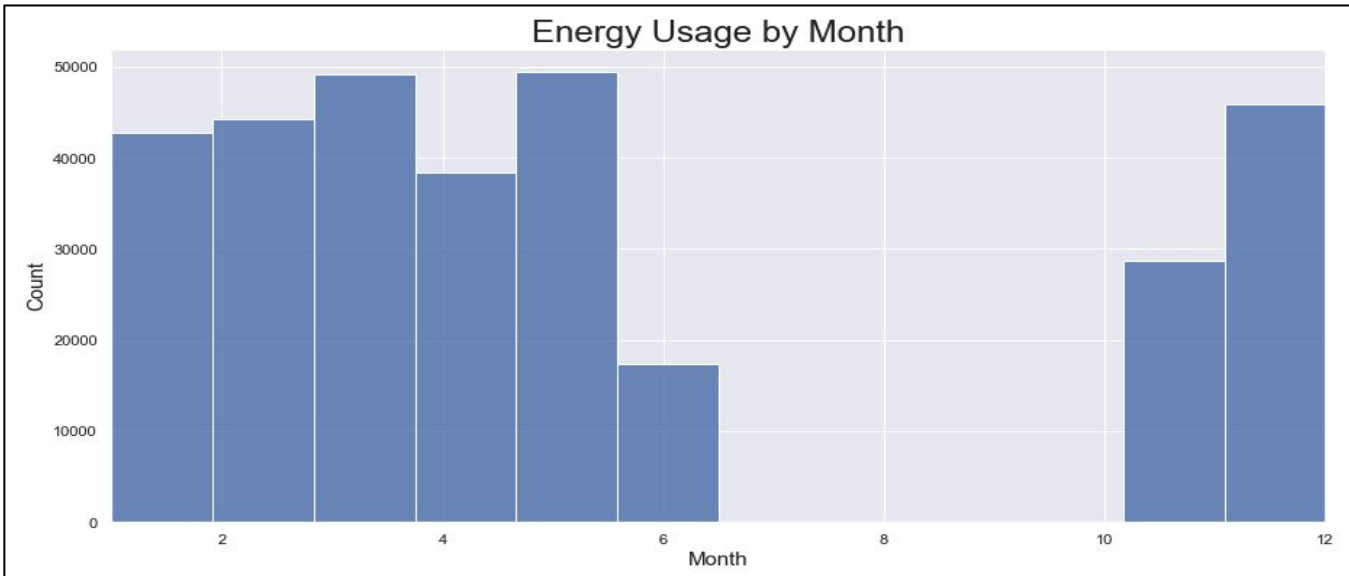
Energy Consumption

Energy usage vs. Density

Analysis: When are consumers more likely to buy certain products?

What type of bandwidth support is needed throughout the week?

When consumers are more relaxed, they're more likely to buy things they don't need

Energy Usage by Month

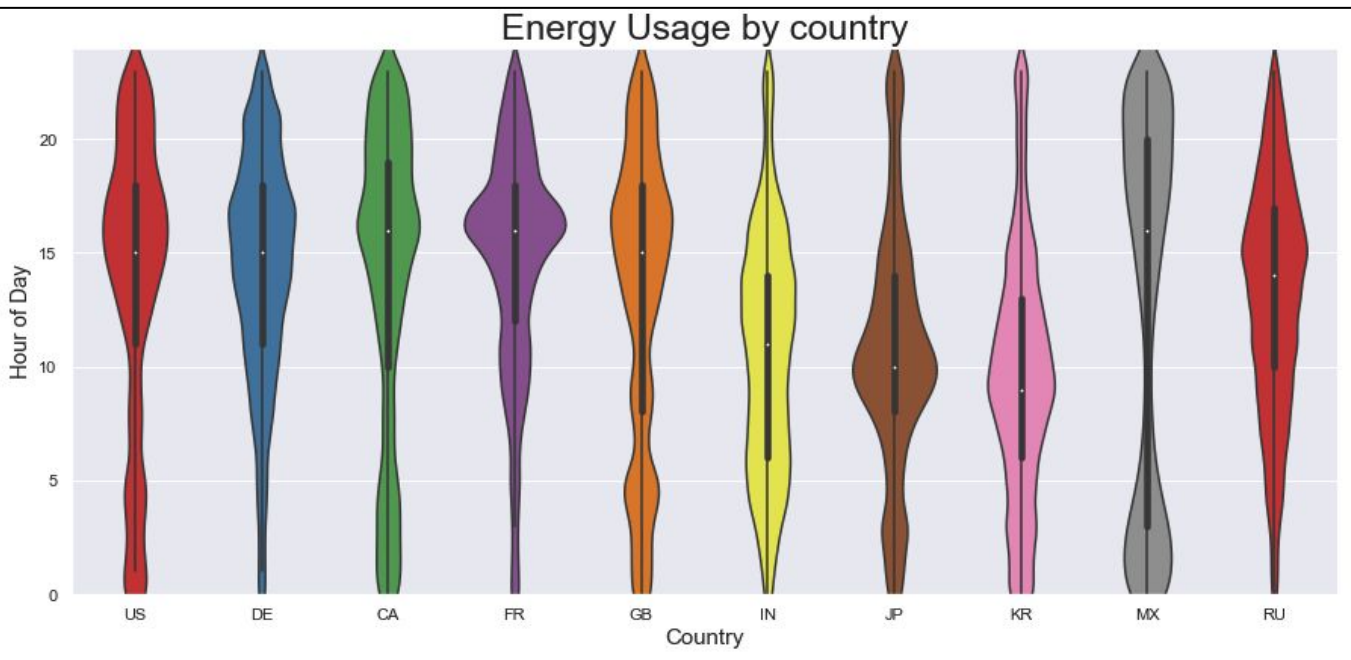**What can we learn from this?**

- Online ads can aim to target viewers during peak times in the day when they're most relaxed.

- Data centers can make decisions on which days will have the least impact during equipment maintenance.

Energy Consumption

Country vs. Hour of Day

Analysis: Understanding the global target audience

Energy Usage by country

What can we learn from this?

- Data centers in France should be equipped to handle the high energy influx during peak hours

- Products targeting asian consumers should take into account their inactivity during normal peak hours

Energy Consumption
Country vs. Hour of Day

Analysis: Understanding the global target audience

Energy Usage by country
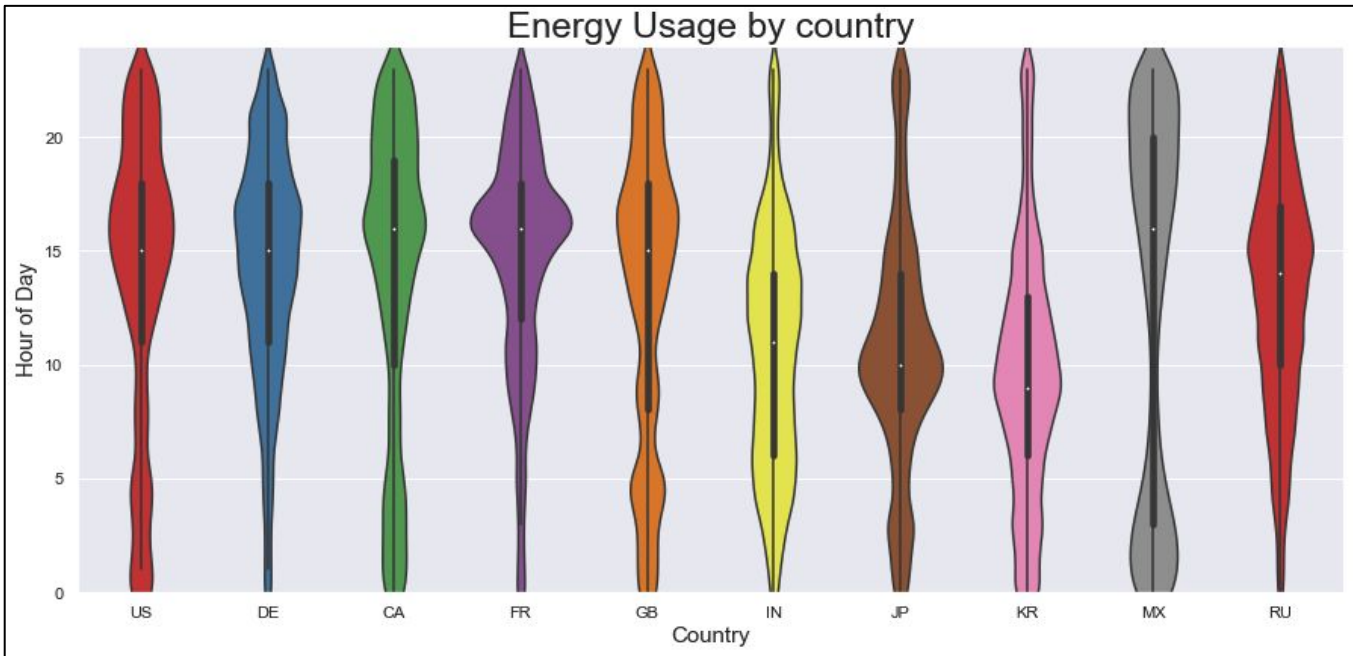
What can we learn from this?

- Indian power grids is more vulnerable to overheating and should use more resilient parts.

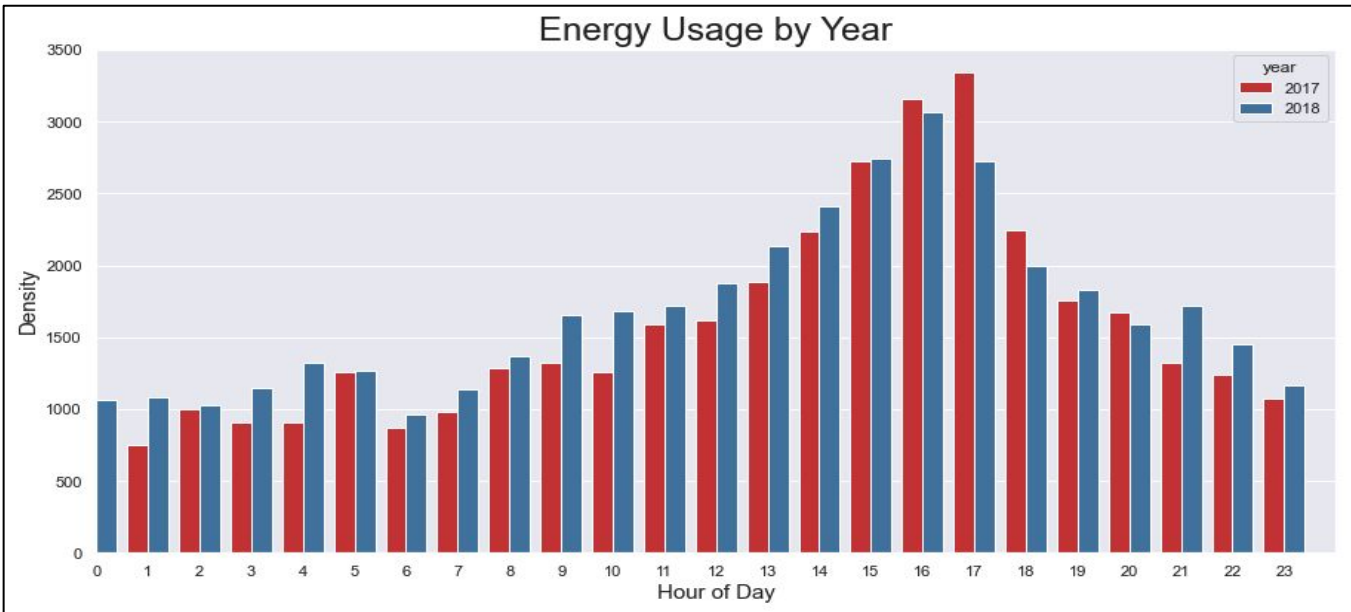- News and social media are less used during the daytime in Mexico.

Trend Analysis, Growth

Hour of Day vs. Density

Analysis: Understand which times consumers will be most engaged

*** Data is normalized to reflect the number of months*

Energy Usage by Year

Analyzing annual trends can help predict how dependent consumers are in phones/technology.

What can we learn from this?

- Consumers are more glued to their phones during late night in 2018 as opposed to 2017.

- This may be the optimal time slot for online ad companies to market their product.
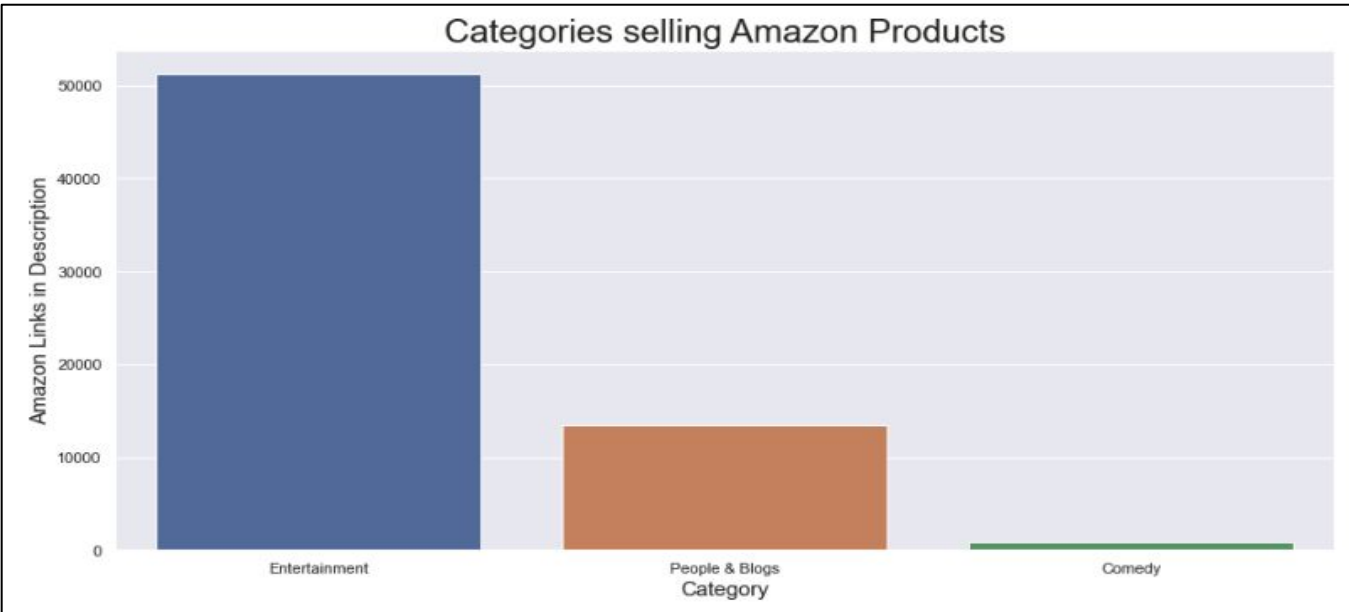
Trend Analysis, Sales

Category vs. Amazon Links

Analysis: Understand which items consumers are most likely to buy

** Extracted amazon links from observation description

Technology ads are most effective in the entertainment industry.

What can we learn from this?

- Affiliated Marketing should target those in the entertainment industry for highest ROIs

- After scraping the links on Amazon, technology was the highest advertised category.

Conclusion

- Which categories should a company invest/allocate resources towards?
  - Changes based on region, but filmmaking / music are top
- Could we use viral data to predict consumer buying trends?
  - Products targeting asian consumers should take into account their inactivity during normal peak hours
- What infrastructure requisites are needed to upkeep the data center?
  - Data centers in France should be equipped to handle the high energy influx during peak hours
- How does the energy consumption vary geographically?
  - Indian power grids is more vulnerable to overheating and should use more resilient parts.
- How does category-viewership differ between regions, and how can we use this data to make smart business decisions?

Effective Marketing

Energy Consumption

Sales and Growth

Future Work

- Find additional data to cover the gap between missing months
- Utilize updated YT data to see how the trend is affected by the recession and CoVID
- Scrape data from other social media platforms (TikTok, …) to see the shift in demand from one platform to another
- Utilize techniques to see which age groups are frequently using the platform based on videos and consumer purchases, to better predict how people behave, based on region.