
WAPO VIDEO STARTS DIAGNOSIS: OCTOBER 2017

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AGENDA

- Review data
- Discuss drivers of drop in Video Starts in October 2017
- Shape a plan for a sustainable solution
- Discuss next steps and summary



EXECUTIVE SUMMARY

- **Objective: Understand causes and severity of drop in Video Starts and shape a sustainable solution to the issue**
- Approach
 - Started with high-level metrics (Overall Web Traffic, Overall Video Start Data) and drilled down to identify specific factors
 - Identified three major drivers: WaPo Website, External Websites + Social Media, and Timing
- Solution
 - By revamping the Washington Post Website, rejuvenating social media presence, and optimizing the timing of video releases **Video Starts can increase by around 25%**

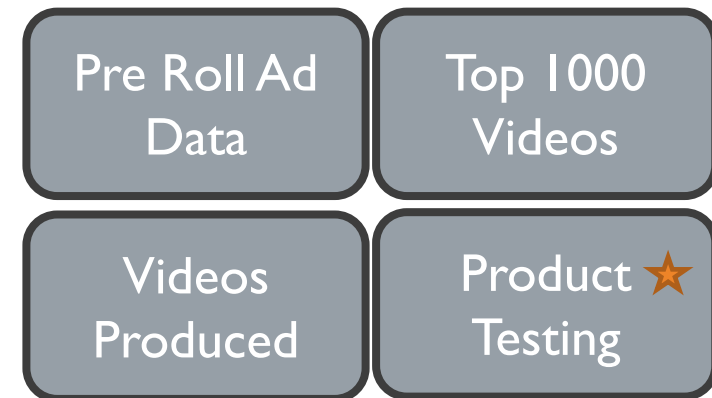


ASSUMPTIONS

- Video Starts
 - Defined as when the video content actually starts
 - Distinct from a video impression, which denotes the start of a video including ad and buffering time
- Data
 - Assuming data is complete or at a minimum representative of WVaPo operations
- What constitutes a drop in Video Starts?
 - Defining this as a statistically significant drop in the total number of Video Starts across all platforms and sections
 - Technically, defining this as at *least* a quarter of a standard deviation



DATA OVERVIEW



DATA QUALITY

- Data quality was lacking in two key ways
 - Data labeling: some fields and subsets of data were not delineated to clarify where the data was from or what it referred to
 - Numeric consistency: fields that appeared as an aggregation did not consistently serve as accurate aggregations of other fields
- Examples
 - Video Starts by Site Area seem underreported for October 2017
 - Video Starts by Site Area Totals do not match up with Video Starts by Site Sections
- Result
 - Some limitations in analysis as there is no source of truth to ensure that analysis was done off of complete and reliable data



Month	Video - Start	Homepage	Article Pages	Video Pages	Others
1/1/17	23,413,743	1,179,073	13,406,868	3,434,860	5,392,943
2/1/17	23,956,633	671,184	15,516,676	2,103,998	5,664,775
3/1/17	15,209,911	1,140,517	9,259,318	1,557,332	3,252,744
4/1/17	14,789,009	1,140,517	11,103,808	1,363,691	1,180,993
5/1/17	17,869,372	830,557	12,475,569	2,181,072	2,382,174
6/1/17	14,772,511	935,031	9,878,479	1,869,633	2,089,367
7/1/17	11,932,694	572,356	7,348,864	1,766,047	2,245,427
8/1/17	18,911,882	949,904	12,568,789	2,016,115	3,377,074
9/1/17	22,862,780	1,953,178	13,146,558	2,708,824	5,054,220
10/1/17	13,700,207	489,485	11,046,243	2,090,693	3,191,522
	177,418,742	9,243,085	115,751,172	21,092,265	31,332,220

PROCESS

Overall Traffic & Video Starts

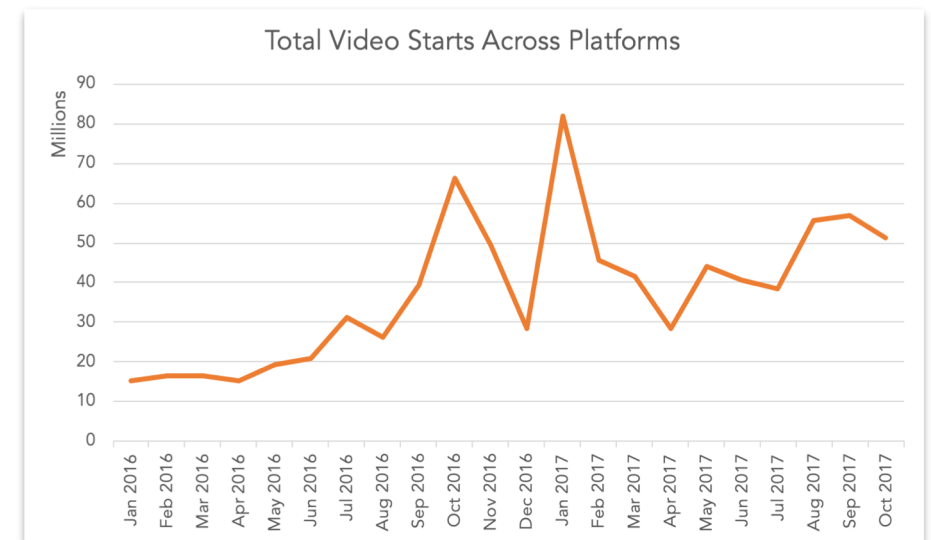
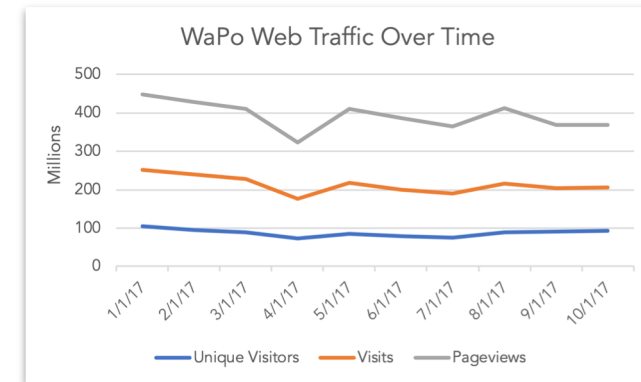
- Web Traffic: No significant dip in overall web traffic
- Video Starts: No major dip on aggregate, but the October dip followed 2 months of back to back growth

Drilling Down

- Three platforms showed significant drops in Video Starts (WaPo.com, AOL, MSN)
- Also found that WaPo.com data may be underreported

Other Factors

- Explored other factors based on data available
- Social Media traffic, Timing of Traffic



KEY FINDINGS



Driver I

WaPo Website not converting site visits to Video Starts

Solution

Develop a captive audience using modern web techniques such as gamification and infinite scroll to convert site visits to Video Starts



Driver II

Social Media referrals are dropping, reducing Video Starts as a result

Solution

Follow up on May 2017 Testing results and increase natively uploaded videos to social media; consider promoting content



Driver III

Web traffic is dropping or stalling during historically peak hours and night shift

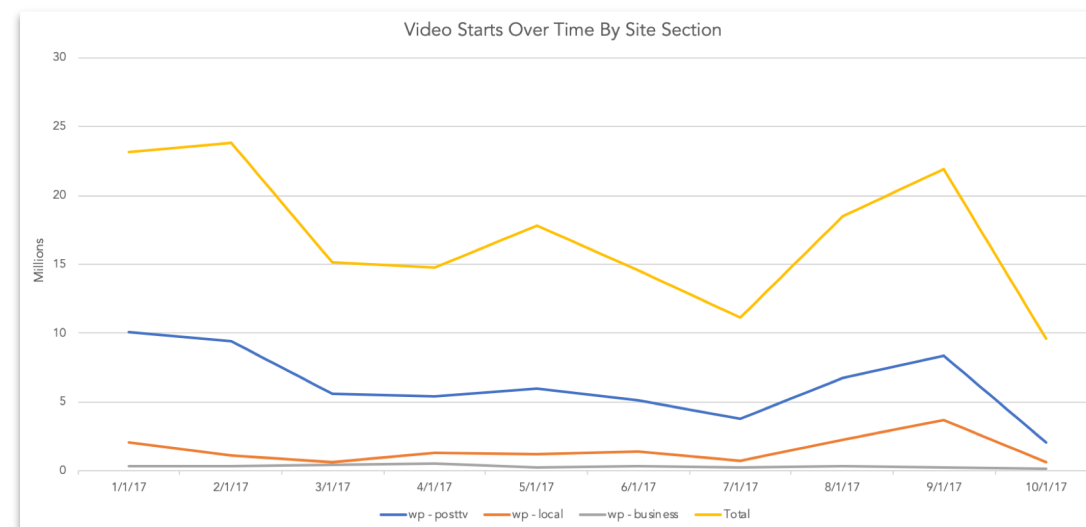
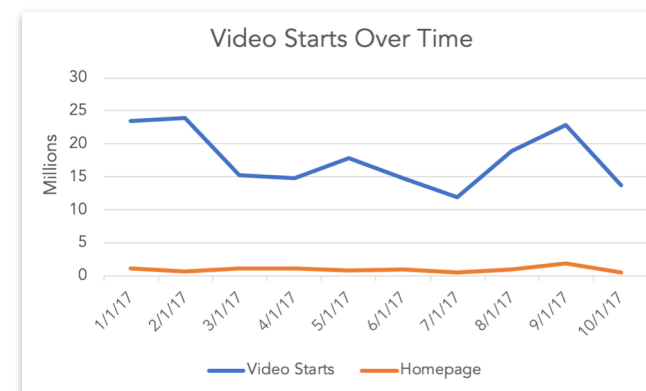
Solution

Leverage peak hours for promoted content, most popular content; turn night shift into strength by cultivating new audience

DRIVER 1: WAPO WEBSITE

- 95% of all TWP Platform Video Starts Historically
- 55% of all Video Starts (TWP Platform + Other Platforms)

- Wapo.com website has seen decrease in Video Start despite steady increase in web traffic
 - PostTV, Local, Business sections have seen significant drops in Video Starts
 - Homepage has seen significant drop in Video Starts (75% decrease from previous month, 66% decrease from previous 2 months)
- Web Traffic itself is Up
 - More referrals (2017 record in October) and more videos produced
 - Ratio of WaPo Visits to Video Starts dropped 5% MoM
 - Ratio of Unique Visitors to Video Starts dropped from recent average of 20-25% down to 14.7%



SOLUTION 1: DEVELOP A CAPTIVE AUDIENCE

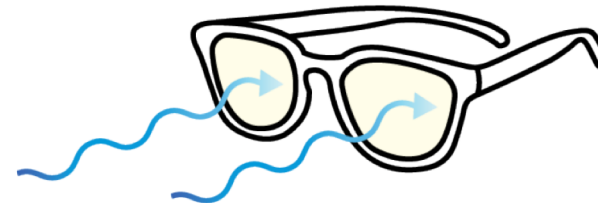
- Modern Website Designs for retaining user attention
 - Infinite Scroll: can significantly reduce bounce rate (TIME Magazine reported 15% drop after infinite scroll)
 - Gamification: can increase user activity by 68%, social sharing by 22%
 - This number is more pronounced amongst Millennials, 62% of whom say gamification would lead to them becoming more loyal customers
 - Light Sensitive Screens: consumers are becoming more aware and sensitive to harsh screen lighting, which can increase bounce rates – Blue Light Blocking Glasses market alone is expecting to grow at 8% per year to reach \$38B+ by 2026
- Video Lengths and Speeds
 - For people in a hurry, offering video speed up may increase viewership, an idea implemented recently by YouTube



Pagination



Infinite Scroll

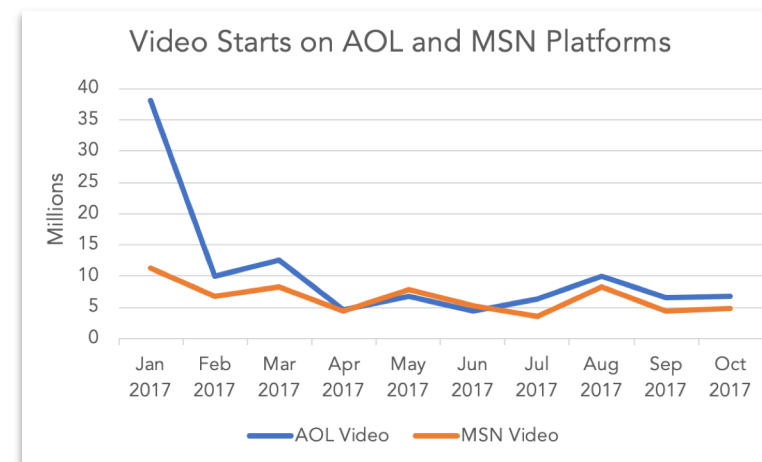


DRIVER 2: OTHER PLATFORMS + SOCIAL MEDIA

- ~40% of all Video Starts (TWP Platform + Other Platforms)
- Highly diversified with 5 different reported streams

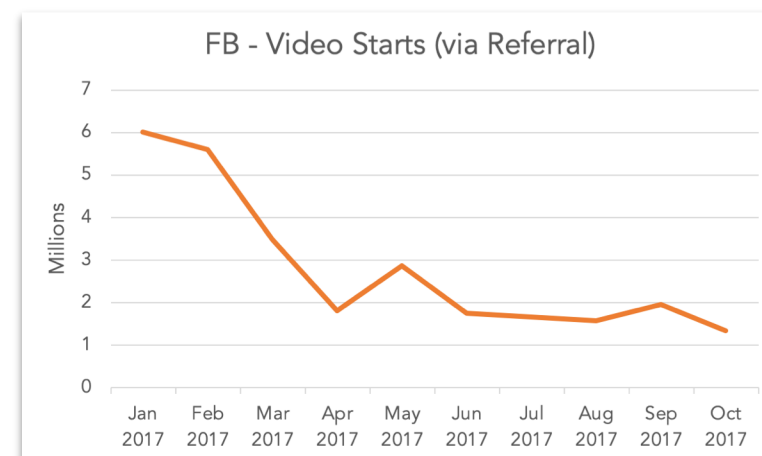
■ AOL and MSN

- Referrals: AOL and MSN did not contribute a significant share of referrals
- Platform Video Starts: AOL and MSN combine for around 30% of all Video Starts historically and are down slightly in October relative to 2017 as a whole

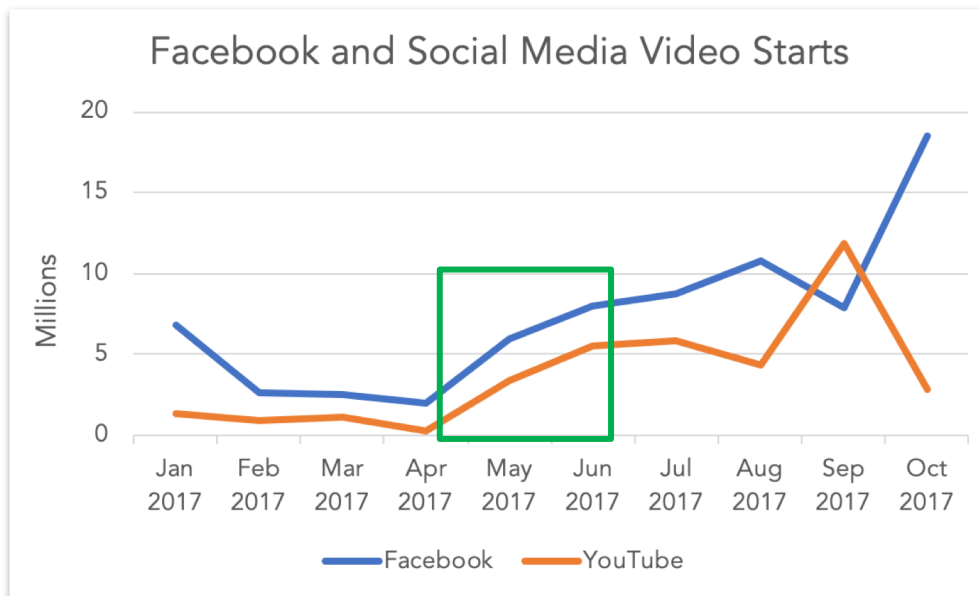


■ Facebook

- Platform Video Starts: record high in October (35% of all Video Starts on WaPo Platform + Other Platforms)
- Referrals: down significantly from the beginning of 2017, down almost 70% since Winter 2017 → Video Starts off of these referrals over 65% as well



SOLUTION 2: INCREASE SOCIAL MEDIA ACTIVITY



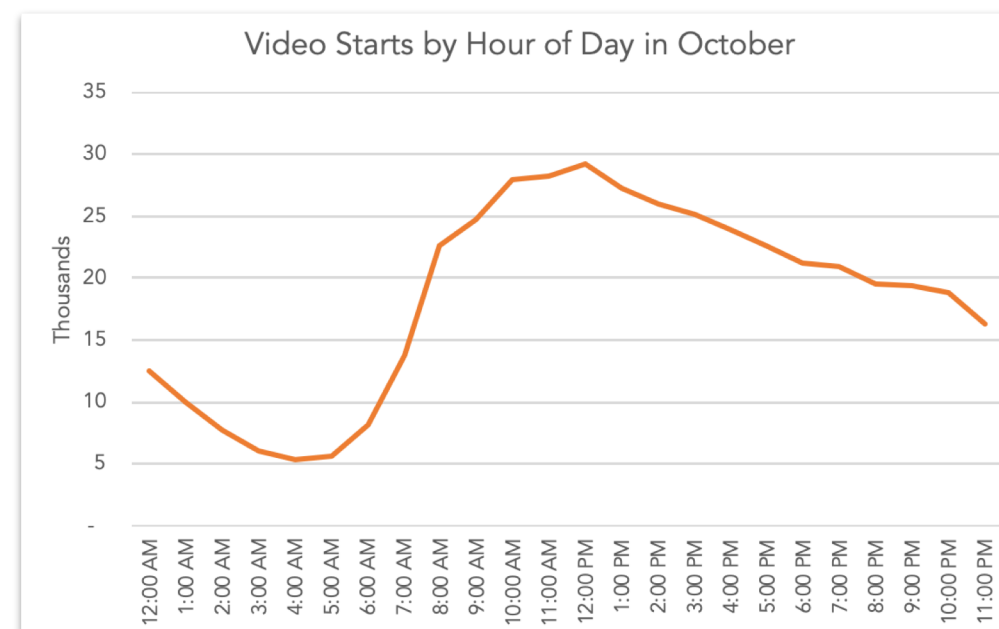
- In May, WaPo tested an increase natively uploaded videos to Facebook and YouTube
 - Video Starts from Facebook jumped 58% from the previous month
 - Social Media referrals increased 20%
- Target promoted spaces on MSN/AOL
 - MSN has a 55% bounce rate, AOL at 39%
 - High bounce rate means that visitors are viewing less content, promoting/boosting content ensures your posts will be seen



DRIVER 3:TIMING

- Video Starts during peak hours account for 30-50% of reported Video Starts
- October's hourly Video Start drops can amount to over 27% lost Video Starts/mo

- Video Starts from both Mobile and Desktop dropped in October during 1-5pm
 - Historical data shows that noon – 5 pm for mobile and 10am – 5pm for desktop are peak periods of activity
- On average October Video Starts are down roughly 27%
- Video Starts are down relatively during the night shift hours of 12am to 6am
 - This also constitutes peak hours for various time zones including the large populations of India and China



SOLUTION 3: *LEVERAGE* TIMING

- Time posts for peak usage periods
 - Natively uploaded videos to social media
 - Non-time sensitive video content
- Turn the night shift into a strength: focus on other time zones, night shift workers
 - Shift focus from Local News Videos to Global News Videos
 - Demographic Analysis on night shift workers
- Data Collection
 - The data included in the Video Starts Per Hour report is a fraction of the Video Starts detailed in other reports
 - A more complete data set might allow for more targeted diagnosis and response to timing of video content



FINAL RECOMMENDATIONS



WaPo Website

- Develop a captive audience using modern website design features
- Based on various historical precedents: estimating a 10% increase in Video Starts



Social Media + Other Platforms

- Increase natively uploaded videos, targeting/boosted posts on social media
- Based on past performance and current share of Video Shares from social media: estimating 20% increase in Video Starts



Timing

- Leverage peak time periods to release content at optimal hours
- A return to previous averages would increase hourly Video Starts by 27%

- Important to note that there will be overlap between impacts of various solutions
 - Cannot simply add up projections
 - Optimistically, estimated a total 25% increase in Video Starts, bringing totals close to Winter 2016 levels
- Data governance
 - Data Dictionary
 - Clearly defined method of deriving Total Number of Video Starts across all mediums

QUESTIONS



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NEXT STEPS

- Data Validation – ensure that solutions and claims hold after data is scrutinized and confirm as accurate
- Cost Estimation on implementing solutions
- Cost Benefit Analysis
 - Will require an analysis on the extent to which the proposed solutions will produce overlapping benefits
- Advanced Analytics
 - Demographic Information to allow for data clustering and segmenting
 - Machine Learning (regressions primarily) to model Video Starts
 - Model will allow for variable analysis to empirically identify large drivers of Video Starts



OTHER DRIVERS

- Advertising
 - October had an unusually high number of complete ads (record high for 2017)
 - Could be a potential driver, but data was not comprehensive enough to make stable conclusions
- Content
 - Top 1000 Videos do not skew in any particular month, do not seem to be statistically down in October
 - Videos Produced did not seem to be a large driver
- Search Engine Referrals
 - Had an excellent September in referrals and Video Starts
 - Dropped slightly in referrals in October, but dropped *disproportionately* in Video Starts as a result
 - Not a very large driver of Video Starts historically, so this driver was not prioritized



TECH STACK USED



RESEARCH

- <http://www.snipp.com/blog/2017-06-21/the-power-of-gamification-participation-engagement-loyalty/>
 - Snipp: Gamification Statistics
 - Aggregation of data from PEW Research City, Giga, and TechValidate
- <https://www.invisionapp.com/inside-design/statistics-on-user-experience/>
 - InvisionApp: Cites evidence reported by TIME Magazine
- <https://www.similarweb.com/website/msn.com/#overview>
 - Similar Web: MSN Analytics
- <https://www.similarweb.com/website/aol.com/#overview>
 - Similar Web MSN Analytics



ABOUT ME

- BA in Computer Science & Statistics from the University of Virginia
- Work Experience
 - Multinational R&D Firms
 - 50 person software startup
 - Private Sector Consultant for Major Sports Brand
- Academic Interests
 - Advanced Analytics and Machine Learning
 - Behavioral Analytics
 - Graphical Models
- Hobbies
 - Chess, Homebrewing, Fitness
 - Avid Traveler: Goal to visit as many National Park as Possible!

