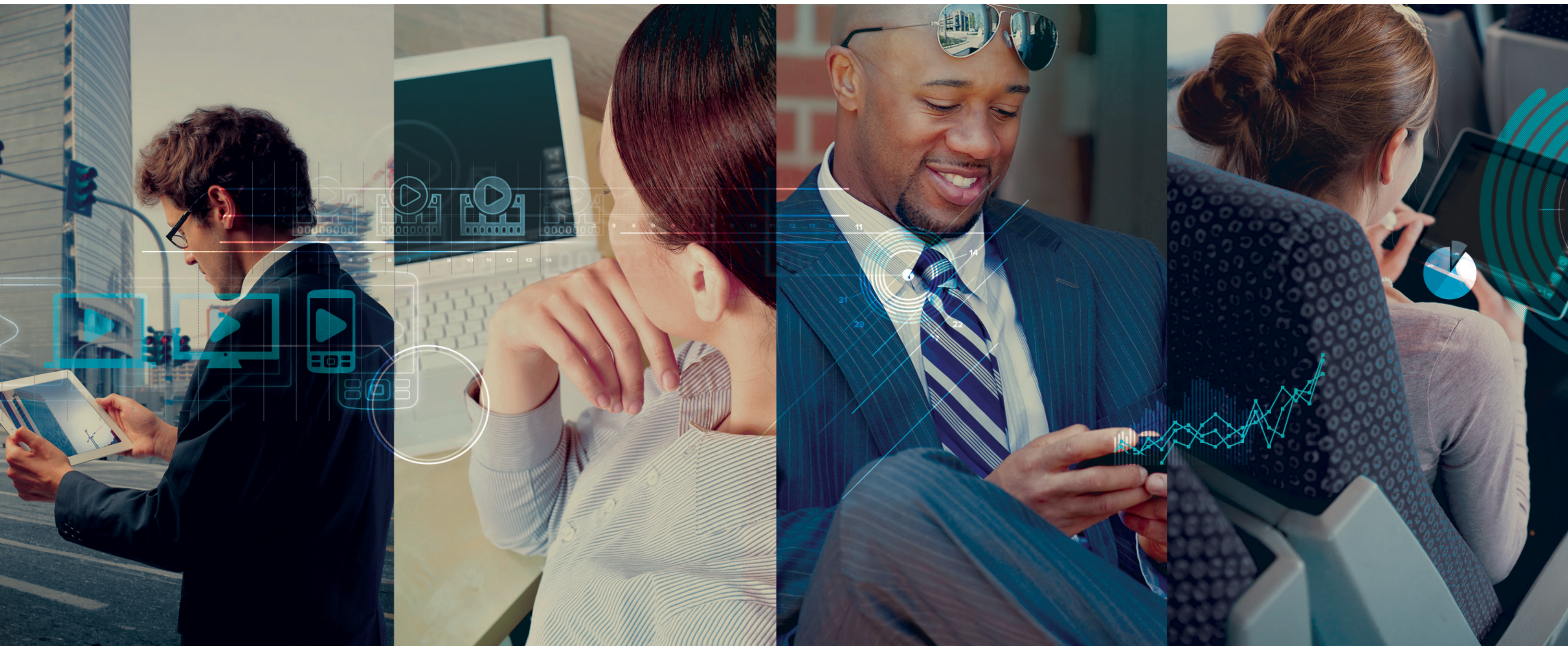
GLOBAL VIDEO INDEX

REPORT

Q1 2012



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EXECUTIVE SUMMARY

How do people around the world watch video on their PCs, smartphones, tablets and smart TVs? Ooyala has a pretty clear idea.

We power video for more than 1,000 customers and reach viewers in every corner of the world, from Argentina to Zimbabwe. Our advanced technology handles billions of analytics events each day and measures the viewing habits of nearly 200 million anonymized monthly unique users. Ooyala's customers use these insights every day to grow their audiences and earn more revenue with online video.

This report builds on findings from our analysis of previous quarters. Some key trends we see from Q1 2012:

LONGER IS STRONGER. It's not just about cats doing backflips anymore. Long-form content—that is, videos longer than 10 minutes—accounted for half the total time people spent watching online video in Q1. Expect this trend to continue as more premium film and TV content arrives online.

MORE VIDEO TO GO. Viewers are watching more videos on their tablets and mobile devices—and for longer periods. The overall share of time watched on smartphones grew by 41% last quarter.[1] The share of time watched on tablets grew by 32%.

PCS BY DAY, TABLETS BY NIGHT. Tablet viewing rises in the morning, tails off during through midday, and then surges in the evenings. On a typical weekday, a full third of tablet video plays occur between 7pm and 11pm. Only about 17% of PC plays take place over that same period.

SATURDAY NIGHT IS PRIME TIME ONLINE. Viewers on connected TVs watch nearly a third more video between 4pm and 11pm on Saturdays than on a typical weekday evening. Programmers should keep this in mind when they plan content and monetization strategies.

POWER VIEWERS RULE. Most video publishers have a small group of super-engaged viewers. Our analysis shows that 10% of a publisher's audience watches more than five of its videos in a given day. Smart companies will find new ways to identify and engage these "power viewers."

DATA-DRIVEN DIGITAL DOLLARS. Our data science team has looked closely at Q1 monetization data. Result: we recommend publishers (1) increase ad load, and (2) employ more mid-roll ads, especially on longer videos.

THE IPAD EFFECT. Following Apple's March release of the iPad 3, the amount of video watched on tablets jumped 26%. iPads presently account for 95% of tablet video viewing, according to Ooyala's data.

Video Index Device Key

Desktops & Laptops

Tablets

Mobile

Connected TVs & Gaming Consoles

Questions or ideas? We're here to listen. Contact our team at videoindex@ooyala.com.

[1] Share of time in this instance is expressed as the total time watched on mobile devices divided by the total time watched on all devices.

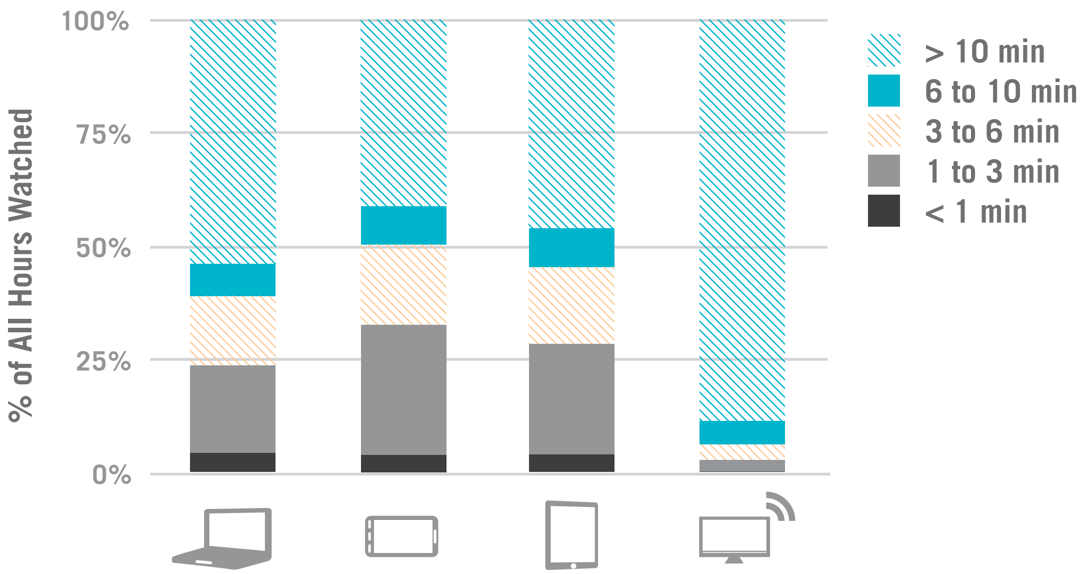
VIEWER BEHAVIOR & ENGAGEMENT

Wow. People are watching more TV shows, movies and long-form videos online, and they are watching for longer periods of time. Long-form content[2] made up more than half of the total time spent watching video in Q1 across all connected devices.

More specifically, there was noteworthy growth in the share of long-form video watched on Connected TV Devices & Gaming Consoles (CTV&GC).[3]

The share rose dramatically from 57% in Q4 2011 to 88% in Q1 2012. Around 40% of the time spent watching online video on mobile and tablets was spent watching long-form videos, compared to 29% for mobiles and 36% for tablets in Q4 2011.

TIME WATCHED BY VIDEO LENGTH AND DEVICE Q1 2012



THE BOTTOM LINE

Ooyala's data suggests that viewers aren't changing the kind of content they consume; they are instead choosing to watch traditional TV and movie content on their new connected screens.

SUGGESTION: analyze and adjust your video length, and be sure to make relevant content recommendations to viewers to maximize viewing time.

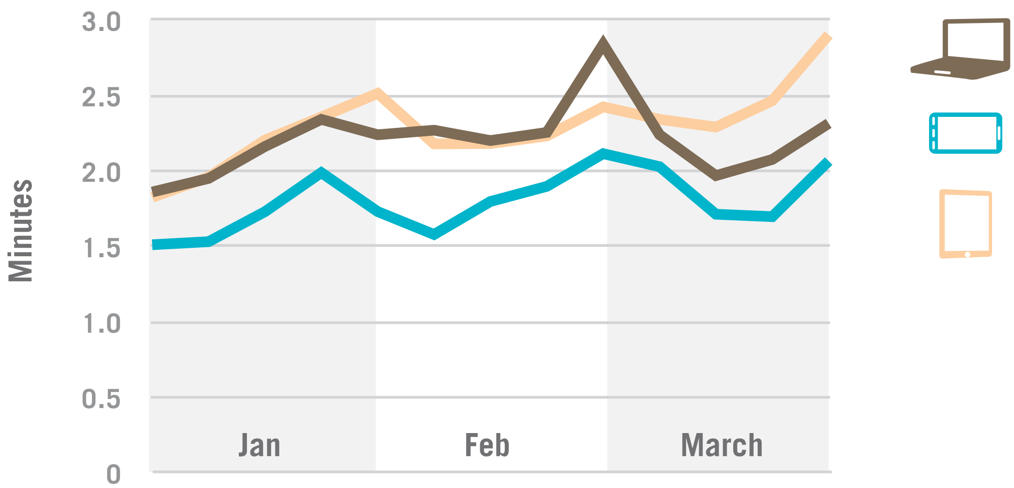
[2] Long-form videos are defined as videos longer than 10 minutes.

[3] The Connected TV Devices & Gaming Consoles (CTV&GC) category comprises set-top-boxes and OTT devices, including Boxee, Roku, Xbox and Google TV.

VIEWERS WATCHING LONGER, EVERYWHERE

In addition to watching more long-form video, people are watching each video longer across PCs, smartphones and tablets. Tablets recorded the strongest growth, with time per play[4] increasing 58% during the quarter. The same metric grew 36% for smartphones and 24% for PCs.

TIME WATCHED PER PLAY Q1 2012



THE BOTTOM LINE

Ooyala's data suggests that viewers aren't changing the kind of content they consume; they are instead choosing to watch traditional TV and movie content on their new connected screens.

SUGGESTION: try in-stream calls to action to reach your most engaged consumers, or add more mid-roll ads to boost revenue.

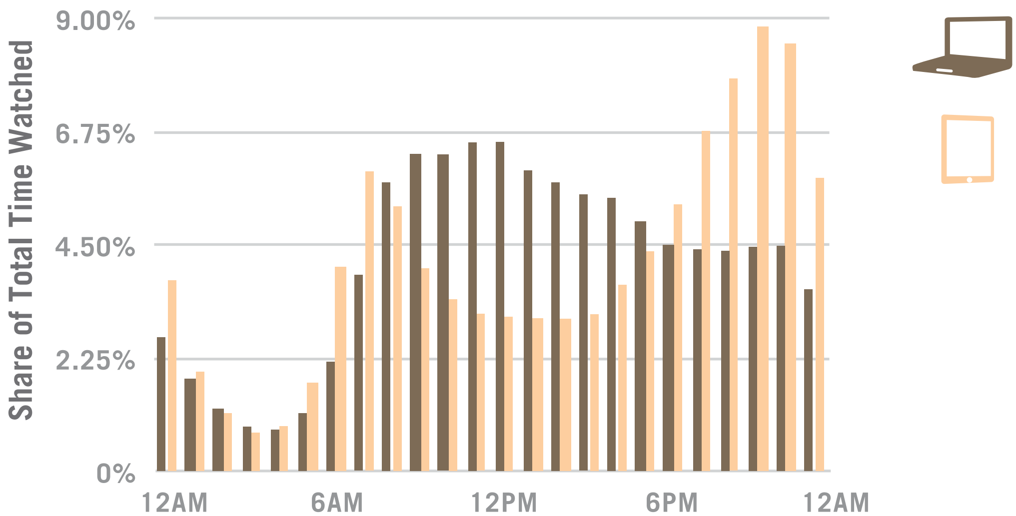
[4] Ooyala's measure of time-per-play includes all instances when playback is initiated, either by a viewer actively clicking "play" or by autoplay.

TIME OF DAY & WEEK

Our data shows that viewership continues to vary significantly based on factors like device, location, time, and day of the week.

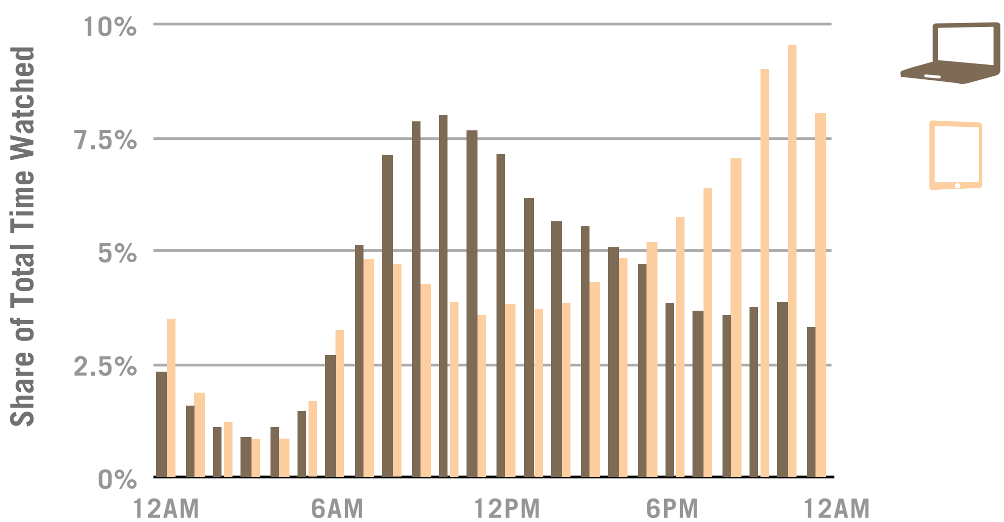
Example: Tablet video viewing rises on weekday mornings as people prepare for the day and commute to work, then falls off during work hours as PC viewing picks up. On weekday evenings, tablet video surges as people watch streaming video to end their day. A third of tablet video plays occur between 7pm and 11pm, while only about 17% of PC plays take place over that same window.

WEEKDAY VIEWING HABITS Q1 2012



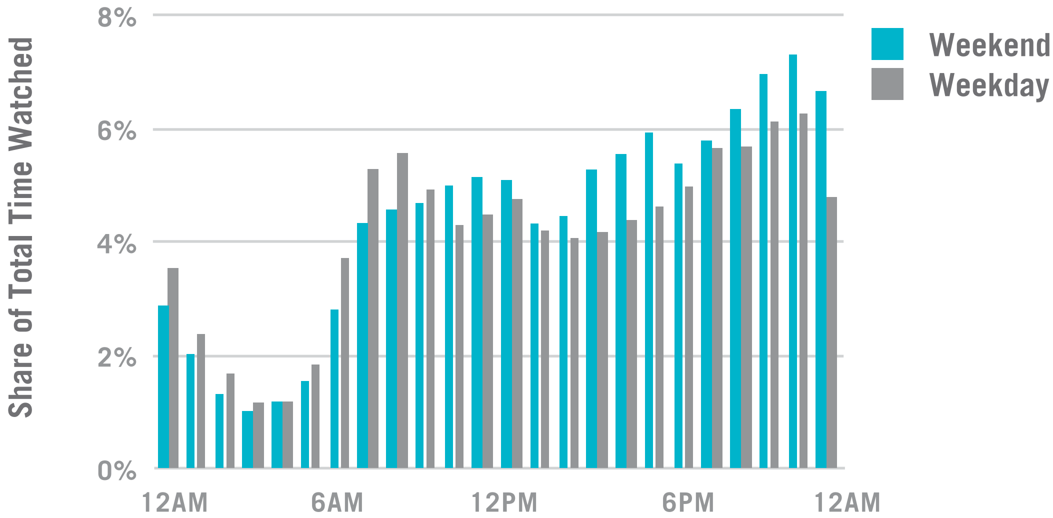
On the weekend, the morning “commuter bump” fades on tablets...

WEEKEND VIEWING HABITS Q1 2012



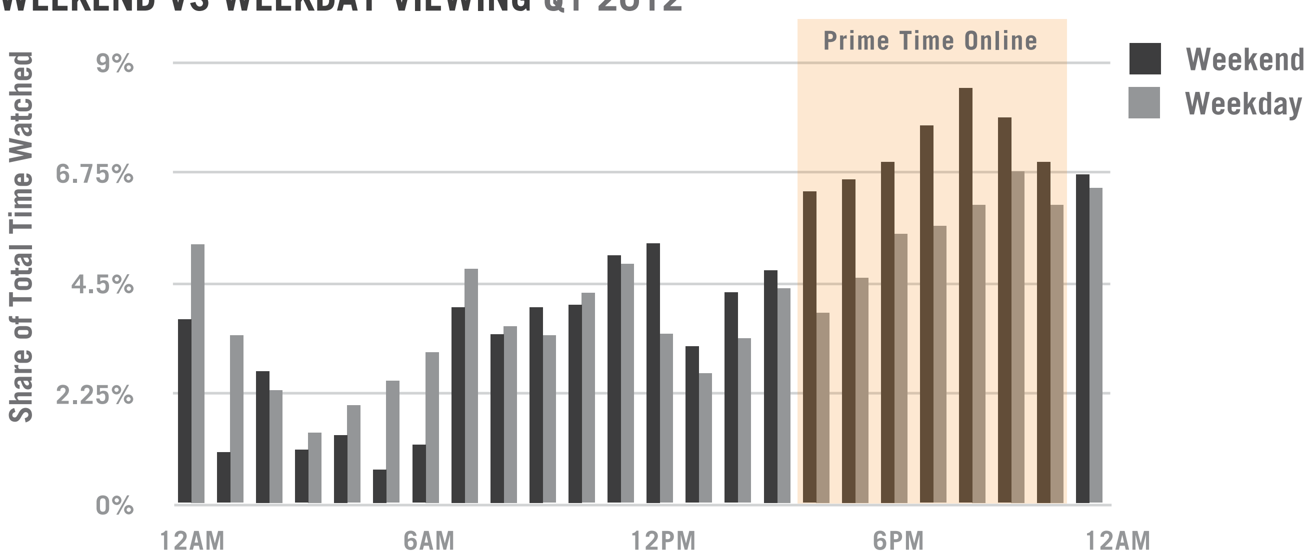
Mobile video drops 22% on weekend mornings compared to the workweek...

MOBILE VIDEO WEEKEND VS. WEEKDAY Q1 2012



And on Saturdays between 4pm and 11pm, viewers watch nearly a third more video on connected TV devices than they do during the week. (We suspect they consume a third more popcorn, too.)

CONNECTED TVS AND GAMING CONSOLES: WEEKEND VS WEEKDAY VIEWING Q1 2012



THE BOTTOM LINE

There's no "one-size-fits-all" solution for Internet TV, but time and day do make a difference.

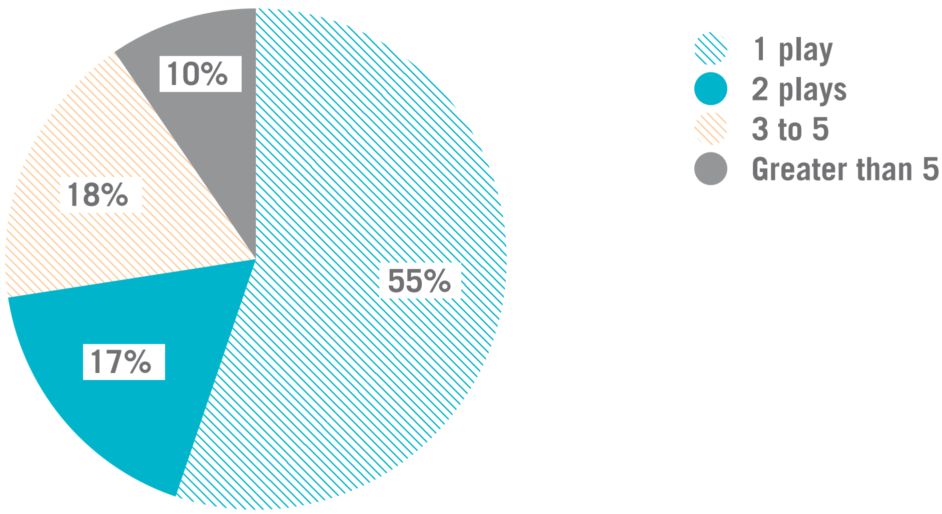
SUGGESTION: Publishers looking to engage mobile or tablet viewers should consider a "subways and sofas" strategy built around morning and late-evening viewing.

INDIVIDUAL VIEWER BEHAVIOR

We typically aggregate data across many viewers and video publishers. It's the most reliable way to derive measures such as average engagement and conversion rates. But at times it's useful to look at data on the individual viewer level.

For example, video publishers might want to know how many of their videos one user is likely to watch on a typical day. Ooyala's data suggests that, of users who watch video when they visit a domain or use an application, more than half (55%) will watch one video over the course of a given day. At the other end of the spectrum, 10% of the publisher's audience will be highly engaged "power viewers," watching more than five videos during the day.

DAILY VIDEO PLAYS PER VIEWER Q1 2012



THE BOTTOM LINE

Audiences are wonderfully diverse. A small group of "power viewers" will watch many videos, while the majority of viewers will watch fewer.

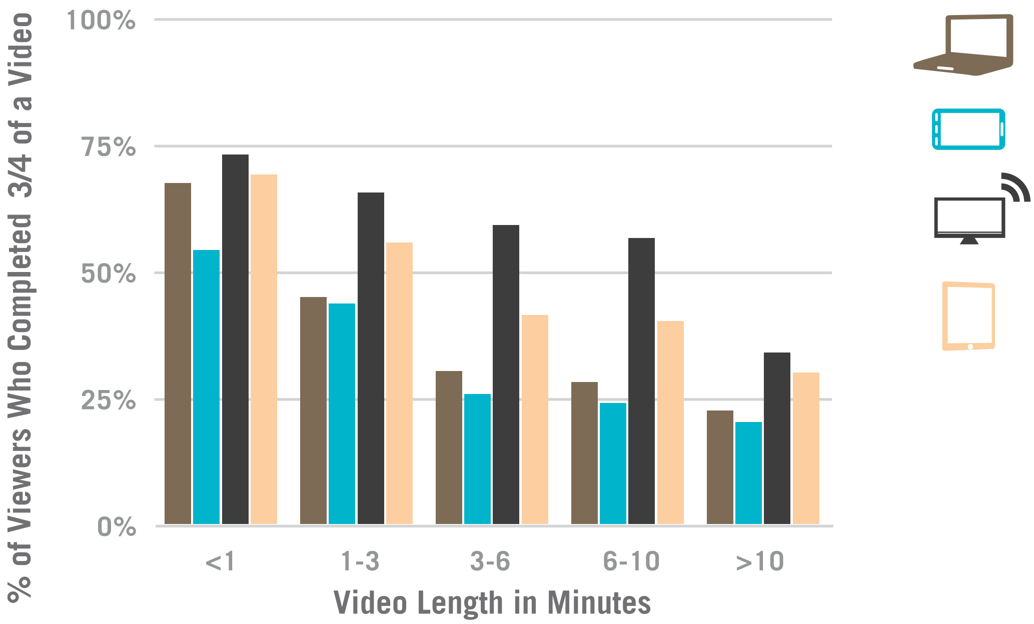
SUGGESTION: segment your audience based on viewing behavior and look for the best ways to engage and monetize each segment. Can you encourage power viewers to share videos—or target them with subscription deals or other offers?

SCREENS, DEVICES & PLATFORMS

Ooyala's data shows explosive growth in video watched on non-PC devices like tablets, smartphones, gaming consoles and connected TV devices. The share of non-PC video plays has tripled in the past nine months alone.

Engagement rates vary. Continuing a trend we spotted in 2011, people watching video on a connected TV or gaming console were the most engaged viewers in Q1, completing three-quarters of videos at the highest rate of all device types. Tablet viewers were the second-most engaged, followed by PC viewers. Notably, engagement rates for PCs and mobile devices were roughly the same for videos 1-3 minutes in length.

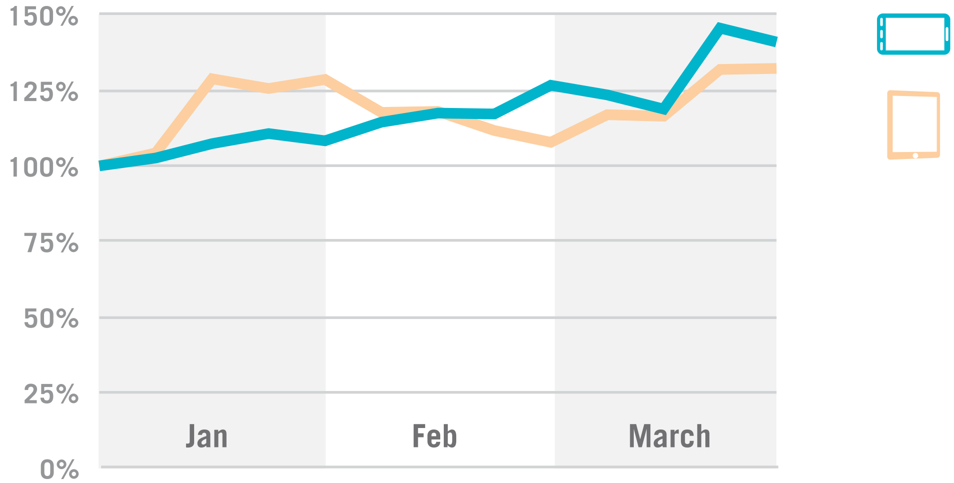
ENGAGEMENT BY VIDEO LENGTH Q1 2012



TABLETS & SMARTPHONES

The overall share of time watched for mobile video grew by 41% in Q1, while tablets notched 32% growth.

GROWTH IN SHARE OF TIME WATCHED BY DEVICE Q1 2012



THE BOTTOM LINE

"Typical" TV viewing is shifting—and not slowly—from broadcast channels on a single screen to mobile, multi-screen viewing experiences.

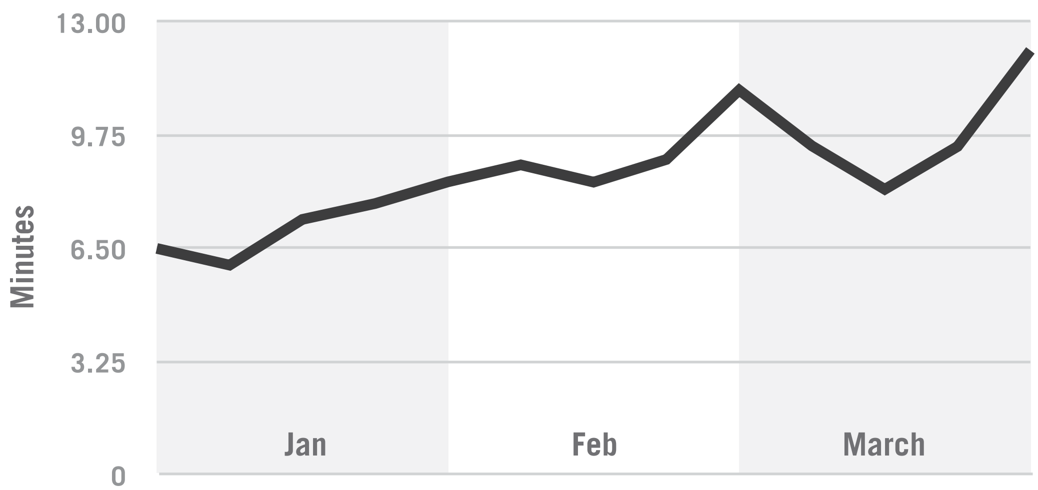
SUGGESTION: if you don't have a multi-device video strategy, get one. Fast.

CONNECTED TV DEVICES & GAMING CONSOLES (CTV&GC)

Connected TV Devices & Gaming Consoles are transforming the traditional TV experience.

While the number of video plays remained flat during the last quarter, CTV&GC time watched per play jumped 87% in a single quarter. (Yes, 87%!) And CTV&GC audiences are much more likely than PC viewers to press play when they encounter a video: in Q1, the average conversion rate on CTV&GC video was 75% higher than that of PCs.

CONNECTED TV DEVICES: AVERAGE TIME PER VIDEO PLAY Q1 2012



THE BOTTOM LINE

Over-the-top TV is changing how people watch long-form, broadcast-quality content online. It offers a lean-back user experience and big viewing screen. The higher conversion rate for CTV&GCs suggest that viewers are: (a) less distracted when sitting on their couch, (b) finding more of the movies and TV shows they want on connected TVs than on their PCs, or (c) a little of both.

Can a single device really impact category-level growth? It can when it's the iPad.

Apple released the iPad 3 in the final weeks of the first quarter, and also updated their tablet operating system with iOS 5.1. Soon after, tablet time per play increased 26%. The iPad accounts for more than 95% of tablet video usage.

This late-quarter spike in tablet video viewing echoes the rapid growth we observed in mobile, tablet and CTV&GC at the close of 2011. As people bought new consumer electronic devices during the holidays, the amount of online video watched rose dramatically.

MAKING MORE MONEY WITH INTERNET VIDEO

Ooyala's database includes an array of TV networks and broadcasters, studios, newspapers, and online media companies. These companies make money online through a mix of advertising, subscriptions and pay-per-view.

Our data science team analyzed Ooyala's Q1 monetization data, looking for a few good trends and best practices.

YOU HAVE THE VIEWERS. NOW GET THE ADS.

Ad fill is the ratio between the ad impressions and ad requests. Say 100 people click play and the video player accordingly makes 100 requests to the publisher's ad server. If only 50 of those ad requests are filled—resulting in 50 impressions—then the fill rate for this particular video would be 50%.

Ooyala's Q1 data reveals startling variation in ad-fill rates across video publishers. The average fill rate throughout the quarter was 35%. Some companies had fill rates as low as 15%, while others consistently had fill rates above 75%.

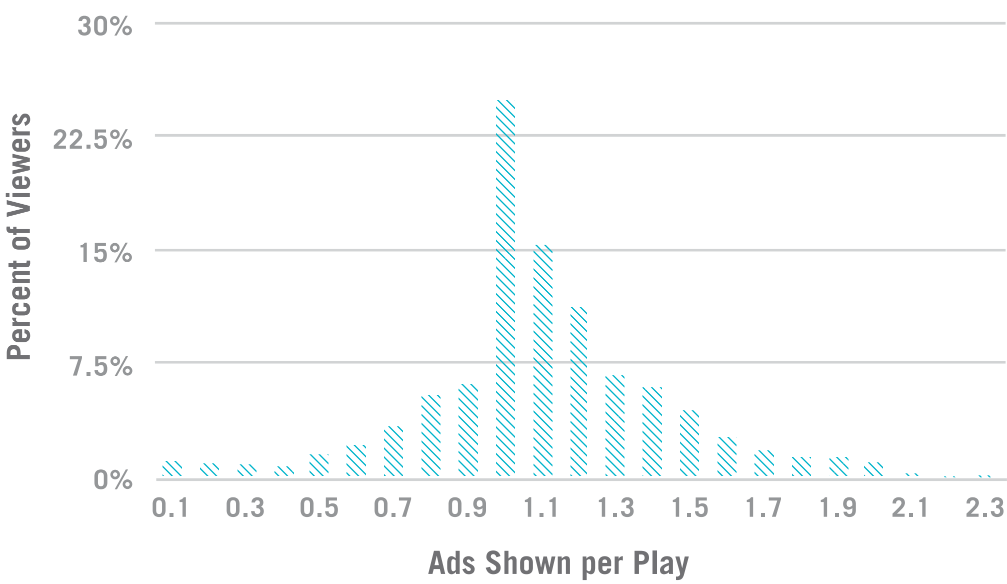
Video publishers need to identify low ad-fill rates and take corrective action—by partnering with a new ad network to increase ad demand, for example.

VIEWER EXPERIENCE & AD LOAD: FIND THE BALANCE

Serve more video ads without disrupting viewer engagement: that's the simple route to max revenue. More ads leads to more revenue per play, of course. But ads that are too frequent—or too irrelevant—can turn off viewers and reduce overall revenue.

Optimizing ad load—the number of ads per video play—is a key step. Ooyala's Q1 data reveals that the average online video ad load is around one ad per play, regardless of video length.

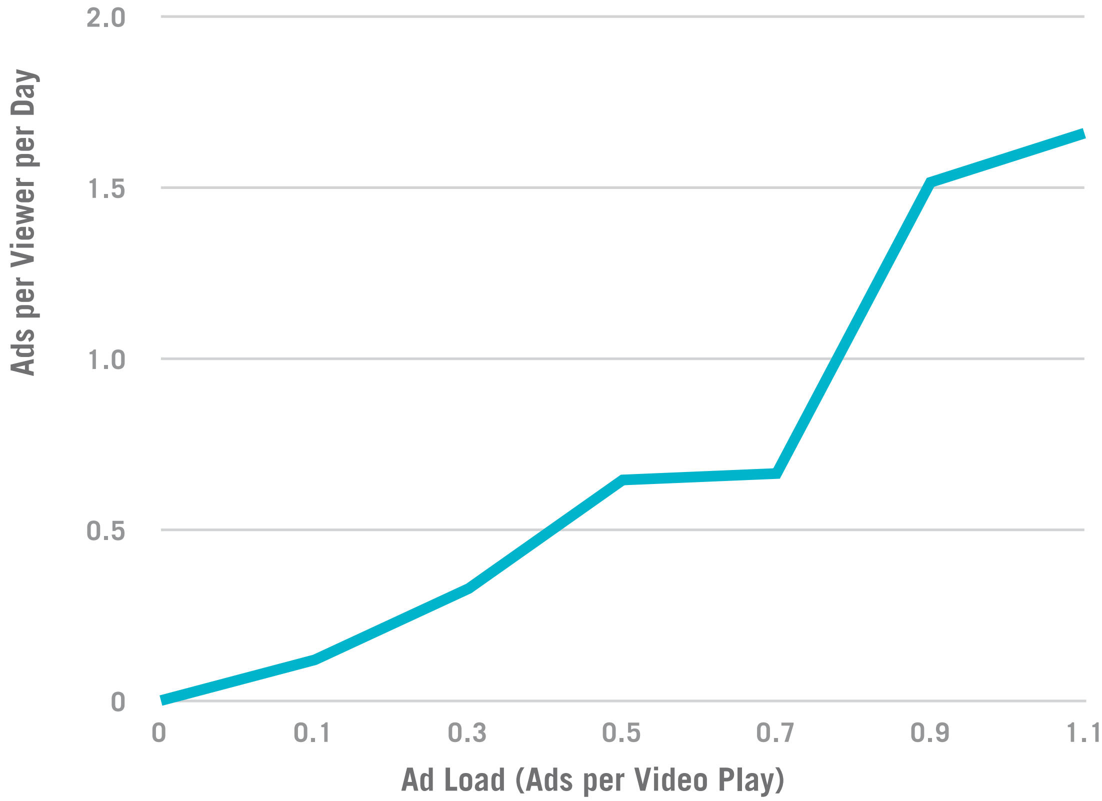
AD FREQUENCY & VIEWER EXPERIENCE Q1 2012



HOW MANY ADS DO YOU SEE IN A DAY?

Another key metric is the number of ads per viewer. The typical viewer sees an average of one video ad per 24 hours on a given domain or application, according to Ooyala's data. This trend suggests untapped potential: online video publishers can grow revenue by increasing ad load. Programmers should have a variety of digital ads available for insertion to reduce viewer fatigue.

AD LOAD & VIEWER EXPERIENCE Q1 2012



MID-ROLLING INTO THE FUTURE

So people everywhere are watching more long-form premium content—and they're watching for longer periods. As this trend continues, video publishers with medium- and long-form content will have more chances to monetize with mid-roll placements.

Ooyala sees a future where the key metric isn't plays, but hours watched per viewer—and where mid-roll ads makeup the majority of online video advertising. Unlike pre-roll ads, which by definition are inserted only at the beginning of a video, mid-rolls can be placed at any spot in the video stream.

Mid-rolls take knowledge: you need a more nuanced understanding of how ad placement affects viewer engagement. Multivariate tests of various ad loads and placements are the most accurate way to find the highest-earning mix of pre-rolls and mid-rolls.

THE BOTTOM LINE

Video publishers need to know more than just audience size and video view totals. The key to bigger audiences and higher revenues lies in a much deeper view of fill rates, ad loads, ad placements, and all the numbers that go into viewer engagement.

SUGGESTION: Run controlled experiments. They're the right way to learn, say, the optimal ad load for a six-minute online video.

SUMMING UP

26% growth in time watched on tablets? 87% growth in CTV&GC time watched per play? Some of the numbers from Q1 were truly staggering.

Don't worry: we'll always have cats doing backflips. But if Q1 data is any indication, long-form video is the way the world's online viewers are headed.

Thanks for reading. We'll check in again after Q2.

APPENDIX

Time Watched by Video Length and Device, Q1 2012

	Desktop	Mobile	Tablet	CTVDGC
<1	4.4%	4.1%	4.1%	0.3%
1<3	19.4%	28.6%	24.4%	2.6%
3<6	15.2%	17.7%	16.9%	3.4%
6<10	7.1%	8.4%	8.5%	5.1%
>10	53.9%	41.1%	46.0%	88.5%

Connected TV Devices & Gaming Consoles: Avg. Time per Video Play, Q1 2012: Minutes

date	CTV&GC Minutes Per Play
Jan 1, 2012 12:00	6.51
Jan 8, 2012 12:00	6.03
Jan 15, 2012 12:0	7.34
Jan 22, 2012 12:0	7.79
Jan 29, 2012 12:0	8.42
Feb 5, 2012 12:00	8.90
Feb 12, 2012 12:0	8.41
Feb 19, 2012 12:0	9.06
Feb 26, 2012 12:0	11.05
Mar 4, 2012 12:00	9.45
Mar 11, 2012 12:0	8.20
Mar 18, 2012 12:0	9.43
Mar 25, 2012 12:0	12.19

Ad Frequency & Viewer Experience, Q1 2012 Percent of Viewers

Impressions per Play	Percent of Viewers
0.1	1.06%
0.2	0.88%
0.3	0.80%
0.4	0.69%
0.5	1.46%
0.6	2.12%
0.7	3.32%
0.8	5.41%
0.9	6.14%
1	24.91%
1.1	15.34%
1.2	11.25%
1.3	6.72%
1.4	5.92%
1.5	4.38%
1.6	2.63%
1.7	1.75%
1.8	1.31%
1.9	1.31%
2	0.95%
2.1	0.22%
2.2	0.04%
2.3	0.07%

Ad Load & Viewer Experience, Q1 2012
Ads per Viewer per Day

Ad Frequency	Ads per Visitor per Day
0	0.00
0.1	0.12
0.3	0.32
0.5	0.63
0.7	0.65
0.9	1.48
1.1	1.62

Time Watched per Video Play, Q1 2012

date	Desktop Minutes Per Play	Mobile Minutes Per Play	Tablet Minutes Per play
Jan 1, 2012 12:00	1.86	1.51	1.83
Jan 8, 2012 12:00	1.95	1.53	1.96
Jan 15, 2012 12:0(	2.16	1.73	2.21
Jan 22, 2012 12:0(	2.34	1.99	2.36
Jan 29, 2012 12:0(	2.24	1.73	2.52
Feb 5, 2012 12:00	2.27	1.58	2.18
Feb 12, 2012 12:0(	2.20	1.80	2.18
Feb 19, 2012 12:0(	2.26	1.90	2.23
Feb 26, 2012 12:0(	2.84	2.12	2.43
Mar 4, 2012 12:00	2.24	2.03	2.34
Mar 11, 2012 12:0	1.97	1.71	2.29
Mar 18, 2012 12:0	2.08	1.70	2.47
Mar 25, 2012 12:0	2.32	2.07	2.90

Weekday Viewing Habits, Q1 2012
PC, Tablet

Hour	Desktop Weekday	Tablet Weekday
0	2.7%	3.8%
1	1.9%	2.0%
2	1.3%	1.2%
3	0.9%	0.8%
4	0.8%	0.9%
5	1.2%	1.8%
6	2.2%	4.1%
7	3.9%	6.0%
8	5.8%	5.3%
9	6.3%	4.1%
10	6.3%	3.4%
11	6.6%	3.1%
12	6.6%	3.1%
13	6.0%	3.1%
14	5.8%	3.0%
15	5.5%	3.1%
16	5.4%	3.7%
17	5.0%	4.4%
18	4.5%	5.3%
19	4.4%	6.8%
20	4.4%	7.8%
21	4.5%	8.9%
22	4.5%	8.5%
23	3.6%	5.8%

Weekend Viewing Habits, Q1 2012
PC, Tablet

Hour	Desktop Weekend	Tablet Weekend
0	2.3%	3.5%
1	1.6%	1.9%
2	1.1%	1.2%
3	0.9%	0.9%
4	1.1%	0.9%
5	1.5%	1.7%
6	2.7%	3.3%
7	5.1%	4.8%
8	7.1%	4.7%
9	7.9%	4.3%
10	8.0%	3.9%
11	7.7%	3.6%
12	7.2%	3.8%
13	6.2%	3.7%
14	5.7%	3.9%
15	5.6%	4.3%
16	5.1%	4.9%
17	4.7%	5.2%
18	3.9%	5.8%
19	3.7%	6.4%
20	3.6%	7.1%
21	3.8%	9.0%
22	3.9%	9.6%
23	3.3%	8.1%

Mobile Video Trends: Weekend vs. Weekday Viewing, Q1 2012

Hour	Mobile Weekend	Mobile Weekday
0	2.9%	3.5%
1	2.0%	2.4%
2	1.3%	1.7%
3	1.0%	1.2%
4	1.2%	1.2%
5	1.6%	1.8%
6	2.8%	3.7%
7	4.3%	5.3%
8	4.6%	5.6%
9	4.7%	4.9%
10	5.0%	4.3%
11	5.2%	4.5%
12	5.1%	4.8%
13	4.3%	4.2%
14	4.5%	4.1%
15	5.3%	4.2%
16	5.6%	4.4%
17	5.9%	4.6%
18	5.4%	5.0%
19	5.8%	5.7%
20	6.4%	5.7%
21	7.0%	6.1%
22	7.3%	6.3%
23	6.7%	4.8%

Connected TVs & Gaming Consoles: Weekend vs. Weekday Viewing, Q1 2012

Hour	CTVDGC Weekend	CTVDGC Weekday
0	3.8%	5.3%
1	1.1%	3.4%
2	2.7%	2.3%
3	1.1%	1.5%
4	1.4%	2.0%
5	0.7%	2.5%
6	1.2%	3.1%
7	4.0%	4.8%
8	3.5%	3.6%
9	4.0%	3.4%
10	4.1%	4.3%
11	5.1%	4.9%
12	5.3%	3.5%
13	3.2%	2.7%
14	4.3%	3.4%
15	4.8%	4.4%
16	6.4%	3.9%
17	6.6%	4.6%
18	7.0%	5.5%
19	7.7%	5.7%
20	8.5%	6.1%
21	7.9%	6.8%
22	7.0%	6.1%
23	6.7%	6.4%

Video Plays per Viewer per Day, Q1 2012

	% of Total Plays per Visitor per Day
1 play	55%
2 plays	17%
3 to 5	18%
Greater than 5	10%

Engagement by Video Length, Q1 2012
PC, Mobile, Tablet, Connected TVs & Gaming Consoles (CTV&GC)

	<1	1<3	3<6	6<10	>10
Desktop	0.68	0.45	0.31	0.29	0.23
mobile	0.55	0.44	0.26	0.24	0.21
CTVDGC	0.74	0.66	0.60	0.57	0.34
tablet	0.70	0.56	0.42	0.41	0.30

Growth in Share of Time Watched by Device, Q1 2012
Mobile, Tablet

date	Growth of Mobile Share of Time Watched	Growth of Tablet Share of Time Watched
Jan 1, 2012 12:	1.00	1.00
Jan 8, 2012 12:	1.03	1.04
Jan 15, 2012 12	1.07	1.29
Jan 22, 2012 12	1.11	1.26
Jan 29, 2012 12	1.08	1.29
Feb 5, 2012 12:	1.14	1.18
Feb 12, 2012 12	1.17	1.18
Feb 19, 2012 12	1.17	1.12
Feb 26, 2012 12	1.27	1.08
Mar 4, 2012 12:	1.23	1.17
Mar 11, 2012 1	1.19	1.16
Mar 18, 2012 1	1.46	1.32
Mar 25, 2012 1	1.41	1.32

METHODOLOGY

DATA SOURCES & SAMPLE SIZE

The data sample used in this report covers the first quarter of 2012, from January 1 through March 31. All data was taken from an anonymous cross-section of Ooyala's global customer and partner database—an array of broadcasters, studios, cable operators, print publications, online media companies and consumer brands. These firms broadcast video to over 130 different countries from more than 6,000 unique domains. Nearly 200 million unique viewers watch an Ooyala-powered video every month.

This data sample is not intended to represent the entire Internet, or all online video viewers.

DATA COLLECTION

Ooyala's video analytics technology collects all anonymized video data in real time. During playback, Ooyala's video player continuously gathers information and relays it to an analytics module, which then stores the data in a distributed file system, Hadoop. Viewer statistics are then compiled and stored in a Cassandra data cluster, where the information is made readily available for analysis.

ANALYSIS & METRICS

Ooyala's video analytics module tracks a range of standard variables, such as:

- Displays, plays and time watched
- Viewer engagement and video completion rates
- Sharing by social network
- Geography (region, state, city, Designated Marketing Areas)
- Device type (mobile, desktop, tablet, connected TV devices & game consoles)
- Operating system (Windows, Android, iOS)
- Browser (Safari, Chrome, Firefox, Internet Explorer)

For more details on specific metrics and measures, please see the Metrics & Definitions section in the appendix.

GLOSSARY

CONVERSION RATE: The ratio of plays to displays. 10 displays with 1 play is a conversion rate of 10%.

COMPLETION RATE: The rate at which viewers watch a specified portion of a given video. Sometimes used interchangeably with "play-through rate."

DISPLAY: Each (and any) time a video is loaded in a browser and displayed to the viewer.

MOBILE DEVICES: All smart phones, including iOS, Android, Blackberry, and others.

VIDEO PLAY: Each time a video starts playing.

CONNECTED TV DEVICES & GAMING CONSOLES: Set-top-boxes and OTT devices, including Wii, Playstation, Boxee, Roku, Xbox and Google TV.

TABLETS: All media tablets, including iOS and Android.

DISCLAIMERS & ASSUMPTIONS

Data is not aggregated across all videos or providers for vertical data, and only publishers with a meaningful amount of videos watched are included. Publishers with incomplete data for Q1 have been excluded.

When selecting items for inclusion in the report, Ooyala's data science team selected metrics that were clear and meaningful. Granular measures were broken down along many categories, which resulted in a large amount of data. Rather than reporting all of this data, the Ooyala team chose to highlight those measures that give a good impression for the data set as a whole.