State of the Broadcast Industry 2017

OTT is the New Normal

Broadcasters are embracing a new reality as we charge into 2017.

OTT video, which started as a vexing outlier, has not only been welcomed into the industry fold but is now driving mainstream broadcast strategies. Its hold on cord avoiders and its radical influence on technology, programming and advertising shifts is certain and can no longer be ignored.

OTT now shapes how we all think of “TV,” how the world consumes it and how broadcasters produce, distribute and monetize it.

As our 3rd annual report finds, OTT is, without doubt, a central part of the broadcast experience today and will continue to be in the year — and years — ahead.

Welcome to your new normal.

ONLY OOYALA

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Executive Summary

The new reality of TV has arrived. OTT is now in the broadcast mainstream: an integral part of how video content is made, delivered, consumed and monetized. Led by changing consumer habits, video and advertising are evolving to offer more mobile and personalized experiences. The industry is plotting its future around new services and synergies, and technology is adapting to deliver video in advanced and immersive ways. Differentiated programming is becoming a critical competitive advantage in a crowded and fragmented marketplace, where content demands are exploding and production processes are changing to help solve these challenges. Data will prove to be the connective tissue and winning ingredient to ensure broadcast success everywhere.

CONSUMERS

Today, consumers are demanding video the way they want it: on their time and their terms. And they're getting what they want. The digital habits of Millennials are influencing other generations, and the industry is responding by recreating the traditional TV experience on every screen to meet audiences wherever and whenever they're watching. And video experiences in whatever form they take, based on whomever is watching, are becoming more and more individualized. Just the way they like it.

> "Digital video will overtake television to become the single largest way people spend their free time before the end of this decade."
>
> **— Robert Kynchl, Chief Business Officer YouTube, as quoted in USA Today**

1.1 I'll Get That To Go

Mobile continues to grow worldwide as consumers' **screen of choice**, spurred by greater video content availability, tablet, smartphone and connected app penetration, and faster **wifi connections**. At the same time, broadband deployment, speed and bandwidth capacity have expanded to deliver high-quality video.

Data from the Ericsson Consumer Lab's TV and Media 2016 report shows that the average consumer worldwide is watching **four more hours of mobile video every week** than they did four years ago. Meanwhile, their traditional TV viewing time is down by 2.5 hours a week, so overall they're watching 1.5 hours more video weekly. In 2017, look for continued consumer willingness to **watch longer content on mobile screens** (whether they're in or out of the home), and for content companies including telcos like Verizon and Korea's LG Uplus to run lockstep with them by providing more premium mobile video content of all lengths.

TV habits are not only shifting more towards other screens but other times as well. Consumers, particularly younger ones, are continuing to flee live and scheduled-linear TV and are becoming more used to time-shifted TV, a hallmark of the OTT video-on-demand experience. 67% of respondents in a recent NBCUniversal study noted that they **no longer needed to watch shows when they first air**, and are taking longer to do so these days. And, **SVOD penetration** is about to overtake DVR penetration in the U.S., untethering audiences further from linear TV. These behavioral changes are happening everywhere: **Asia-Pacific** audiences now watch nearly as much online video as linear TV daily, spurred by on-demand options. Look for these new viewing patterns to impact how content companies create, promote, license and monetize their content going forward.

Support for on-the-go streaming is also becoming more critical to audiences — having a consistently **high quality viewing experience** and unlimited data plans that can grow as their viewing does — much like what Charter is doing in the wake of its merger with Time Warner. The Ericsson report indicated that, globally, 40% of consumers are very interested in **unlimited video streaming capabilities** with their mobile data plan. Millennials topped the list as the most interested group, in line with their mobile and OTT viewing habits. A Deloitte survey found that they now average **3 OTT subscriptions** in the U.S. And, while 61%

of Millennial U.S. head-of-households are both pay-TV and OTT subscribers, 23% are now only consuming OTT video, **according to Parks Associates data**; that's 8 points higher than the national average. Expect to see more **unmetered plans**, like Australia's telcos are using to attract consumers, and **sponsored data plans**, like Tesco Mobile's in the U.K. The entire market of OTT experiences will improve and mature as consumers increasingly want their content 'to go.'

In whatever way they consume video content today, audiences are now sending a clear message that they want and expect to control their own viewing activities.

> "More than 52% of all video views this quarter were on mobile devices... Since Q3 2013, mobile video views have increased more than 233%, outpacing the growing penetration rate of mobile devices globally as viewers spend more time watching video on the small screen."
>
> **— Ooyala Global Q3 2016 Global Video Index**

1.2 Me, Myself and I

Consumers are becoming increasingly platform-agnostic, with content selection, cost and convenience paramount in their minds. To wit: 41% of U.S. adults said they plan to **shave or cut the pay-TV cord in the next year**. This trend is moving beyond the U.S., where it has traditionally been most prominent; in **Brazil**, for instance, 16% of pay-TV subscribers are now cutting the cord. Beyond these cord cutters, cord shavers and cord nevers that the broadcast industry is contending with, a new headstrong group has emerged from the rising tide of content choice: the **cord cobblers**. These are viewers who build their own customized content packages across streaming services and platforms. These consumers are close cousins with the more broadcast-friendly **cord stackers** who still have traditional TV packages but combine them with streaming services. Recent JD Power **satisfaction study scores** among video streaming customers were highest for this group, and lowest for cord cutters.

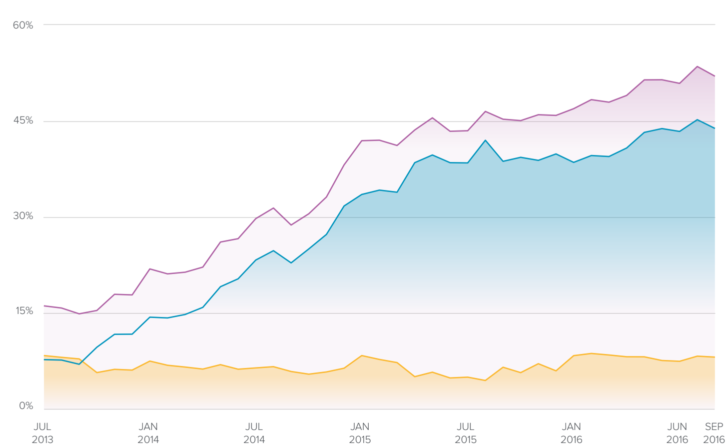
Finding value in content — however it is offered — remains a key consumer concern, and is now not only driving pay-TV churn but churn from SVOD services as well. As we noted in **a recent Ooyala Global Video Index**, 39% of respondents in a Vindicia survey on the subject said they felt a lack of value in their subscription.

Another frustration? Content search. The average person now spends over one year of his or her life **looking for something to watch on TV**. **Show dumping**, when viewers abandon shows altogether, is caused by an inability to find content, and is on the rise across age groups: More than half of Millennials have show dumped, but less than 20% of Baby Boomers have. Look for content providers everywhere to develop more creative ways to respond to these new consumer groups and their concerns going forward via offerings like streamlined and customized search, discovery and billing services that integrate both linear and OTT video.

Still, 70% of US viewers **binge-watch** TV shows, which is a core selling point of OTT and SVOD offerings. This suggests the level at which audiences are willing to engage with video content and stick with services that meet their specific, individual viewing demands. Again, there are spikes by age group and demographics: **Hispanic audiences are more likely to binge-watch** than non-Hispanics, and a recent comScore study noted that 37% of Millennial respondents said they **binge watch on a daily basis** while only 14% of respondents age 35+ said they do.

Meanwhile, under-18 Gen Z viewers like to skip over TV and SVOD all together, and go straight to binge-watching **YouTube** videos, which also offer a direct social experience. Expect to see OTT binging behaviors deepen across demographics, and more TV networks promote binge-watching opportunities within linear program schedules to replicate OTT offerings and serve up video the modern way to these viewers.

One thing remains clear: broadcasters and operators have realized that to capture and keep the consumers of today and tomorrow, they need to shake up the old paradigms and go all in with OTT.



THE RISE OF MOBILE VIDEO
Q3 2016

OOYALA

SHARE OF PHONE VIDEO PLAYS
SHARE OF TABLET VIDEO PLAYS
SUM OF PHONE + TABLET VIDEO PLAYS

60% of streaming video viewers are cord stackers, 23% are cord shavers, 13% are cord cutters, and 4% are cord nevers.

— From JD Powers 2016 Streaming Video Satisfaction Study, as reported in Broadcasting & Cable

TAKEAWAY

With the rise of OTT video, "TV" as we know it is now on every screen and goes wherever audiences go. It offers both social, connective moments and individual, personal experiences — particularly important to younger audiences. Look for these engagements to be refined further this year by more consumer choice driving how video is created, delivered, viewed and monetized.

INDUSTRY

"I think everybody is trying to figure out what life looks like in the brave new world."

— Les Moonves, Chairman, President & CEO, CBS, during Q3 2016 CBS Corp Earnings Call, as quoted in Videomind

The pay-TV broadcast industry is now facing the growth of OTT services head-on. Networks and operators are launching their own robust OTT offerings, forming strategic alliances with OTT providers and digital companies, or merging with traditional and digital companies for survival and growth. There will be winners and losers in the battle for audiences and revenue, but the time to watch and wait is over. It's time to commit and move forward.

2.1 Shaking Things Up

The impact of audience shifts and OTT hits is creating a great cataclysm felt across the industry.

Pay-TV households have **fallen below 100 million** in the U.S. while SVOD streaming penetration is now at 48%, up 7 points from a year ago. Pay-TV companies are seeing their subscriber numbers **continue to drop** and are trying to slow the exodus by filling the service gaps that are inhibiting growth and by expanding their reach to new audiences. 2016 saw major industry mergers not only among traditional pay-TV and content players like AT&T, Charter, Time Warner and Starz but among telcos and online leaders including Vodaphone, Verizon, Yahoo and AOL. These companies are looking to increase content offerings, distribution (global instead of regional), infrastructure investments and ultimately, revenue.

Alliances have grown among OTT, digital and TV players as well. A multitude of TV networks like ESPN are building production partnerships with digital media companies, while OTT services like Netflix, Hulu and Crackle seek to widen their footprint via cable set-top boxes (STBs) owned by Liberty Global and others. Other partnerships like ABC and Warner Bros. have focused on building out **stacking rights** to grow in-season viewers and lifetime value for content. Amazon is even selling Comcast services. What's at stake? Audience and revenue growth, and control over content and services coming into the home.

This activity is sure to influence consumer fees and choices, and the already tenuous carriage of smaller networks, which are also morphing and embracing OTT to meet the new marketplace demands. Nielsen research recently noted that the average percentage of **TV channels viewed** is down to single digits, thanks, in part, to digital options, so more channels will likely be on the chopping block as **programming costs rise** and viewers drop. Look for the melding of traditional TV and online companies and the change in the political climate at the start of 2017 to affect how companies think about future mergers and investments in the space.

Globally, partnerships like those between **Singapore telco, Singtel, and OTT service, Viu**, have been forming to streamline billing, making it easier for consumers to manage multiple services in the home. Expect to see more alliances like this, particularly in other Asia-Pacific markets and Latin America, where limited payment options are hampering OTT services from maximizing growth.

Amidst all of this, video business models continue to look different. While most OTT services are still **subscription** only, hybrid revenue models that meet audience desires to choose how they want to subsidize content are becoming more prominent. Recent Ooyala Global Video Index report data noted that mobile devices were used slightly more than PCs to watch SVOD content, while the opposite was true for **AVOD content** — indicating that watching subscription-based premium content may be a more personal experience preferred on personal devices. The share of time watching content differs among the models as well. A hybrid set-up helps broadcasters reach as many viewers in as many ways as possible.

Many companies are acting on this strategy. Media Prima in Malaysia is monetizing via both subscription and advertising, for their tonton OTT video service. Hulu and CBS All Access have added ad-free options to their "ad-light" subscription offerings. And, **Vudu** has morphed from TVOD-only to TVOD and AVOD with its Vudu Movies On Us service. Across the board, subscriptions, advertising and transactions are blending, and **OTT** is playing a significant role in helping content providers determine which mix of models makes sense for their overall businesses. Look for these mingled offerings to become more of the standard way of monetizing video content going forward.

As the industry absorbs all of this upheaval, the OTT bus is filling up and companies need to get on board or get left behind.

> "Over the past year, the top pay TV providers (including Dish's Sling TV) lost about 755,000 subscribers compared to a loss of about 445,000 over the prior year."
>
> **— Bruce Leichtman, President and Principal Analyst, LRG, as quoted in CED Magazine**

2.2 Go OTT or Go Home

The OTT market has expanded considerably in the last year. New SVOD services from digital, premium and pay-TV companies like Fullscreen, Starz, Televisa and PCCW Media have launched. Niche services are also on the rise, like Turner's Filmstruck movie service, NBCU's reality TV service, Hayu (available in the U.K., Ireland and Australia), Toca Boca's Toca TV kids service, and Cox's Glosi offering aimed at Hispanic audiences. Over 50 mainstream SVOD services have **launched** around the world since Netflix's SVOD service began in 2010, and the Asia-Pacific region alone has about 140 major **OTT platforms** now.

While the multi-network bundles each have desired features and acceptable price points, none of them have yet found the magic elixir of just the right content mix and platform compatibility all in one comprehensive, cost-friendly package that will entice a mass audience. Yet AT&T for one already envisions the new DirecTV Now OTT service as its **main video platform** by 2020, negating the need for cable or satellite.

Still, there remain hurdles with OTT deployment. Skinnier OTT bundles and even à la carte choices are still the end goal for many consumers, but **Canada's** experiment with these offerings to deter cord cutting has fallen flat due in large part to the fact that U.S. broadcast networks are not included. Research indicates that **broadcast channels** remain a top consumer priority for OTT packages in the U.S. as well. While some new services are seeing solid growth, others like **YouTube RED** are struggling to turn viewers used to free content into paying customers, and many niche services like **NewsOn** are finding it tough to break out — especially amidst such a crowded marketplace of content options. At the same time, consumers are still doing the math on whether assembling their own collection of skinny bundles makes economic sense in the long run. Expect to see more services emerge in 2017 — including more **sports OTT** services which have high consumer interest — with offerings that apply lessons learned from these early experiments and new entrants.

Meanwhile, within the existing major OTT services, changes are apparent as well. The players who've been in the space are maturing by deepening their offerings and changing up pricing as more competition comes into play and **content licensing costs** soar. Hulu is rolling out a bundled service in 2017, while Amazon has monthly Prime Video subscription plans now and is thinking about offering its own bundled TV network package, all in service of **higher retail revenues**. Netflix is achieving feature parity by now providing offline viewing to give audiences more flexibility for watching content. This feature is particularly helpful in emerging global markets and other areas with limited internet access.

Despite these and other challenges, OTT is growing at a rapid clip globally. Netflix will see its **international subscriber base** surpass its U.S. base by 2018. **Latin America** is already one of its key markets outside of the U.S. and **poised for continued growth**. The **Asia-Pacific market** is expecting rapid expansion as well, despite the need for more local-language programming throughout the diverse region. And in the U.K., OTT services are dominated by free broadcast **catch-up** offerings like the BBC iPlayer and ITV Player. Look for the global story to heat up in the year ahead as content offerings, regulatory issues and infrastructures improve to support video growth.

Overall, **analytics** and **personalized video recommendations** will continue to be among the key factors in building successful OTT services. Amazon knows this: It has been promoting the ability of its Fire TV devices to help audiences instantly find new shows. Netflix has tested autoplay video trailers, and the Malaysian SVOD service, Iflix, recently launched a new **curated playlist** feature to enhance customer viewing. Look for data to help industry players create more **discovery features** like these to keep audiences glued to their services and build revenue in the year ahead. And, as OTT video continues to grow, technology advances promise to push it in new and immersive directions.

> "59% of all US households have a SVOD service from the likes of Netflix, Amazon Prime, and/or Hulu, up from 47% in 2014."
>
> **— From Leichtman Research Group study, as reported in Rapid TV News**

TAKEAWAY

The growth and future of broadcast content is undoubtedly via OTT. Mass or niche, local or global, singular or hybrid — OTT will rule with consumers and drive further industry shifts and alliances. As always, data will help make or break services. Look for providers to embrace it wholeheartedly in the year ahead.

TECHNOLOGY

> "What we're trying to do is make sure we have a differentiating experience for our customers and separate ourselves from the competition that is out there... That's how we tend to look our development efforts and where we put our investment in terms of the different technologies we pursue."
>
> **— Matt Lake, EVP and CMO, Altice USA, as quoted in Multichannel News**

The technology shifts that the industry has seen to get us to an OTT world are nothing compared to what's on the horizon. Technical applications that put consumers smack in the middle of video content, make it larger than life and expand it throughout the home are next to hit the mainstream. Hang on, because video just got interesting.

3.1 Get a Lot of Screen Time

While video screens are getting smaller, larger screens like connected TVs (CTVs) still dominate for longer content. Data from the **Ooyala Q3 2016 Global Video Index** report notes that their share of medium- and long-form content has increased due, in large part, to two factors: the availability of more premium content and the increasing number of CTVs in households. During the quarter, 93% of content on these devices consisted of medium- and long-form video, up from 73% a year ago. eMarketer notes that **CTV households in the U.S. alone** will hit nearly 98 million by 2020.

This CTV growth also bodes well for 4K as it continues to build momentum. Research from Irdeto and SNL Kagan indicates that both content producers and video service providers expect consumers to **pay more for 4K content**, and therefore they have active plans to deploy more of it over the next few years (even though 4K content is also a more attractive target for piracy). While this ultra high-def (UHD) format is currently being helped along by **OTT services** like Netflix and recently, YouTube, set-top boxes are also expected to play a role in this for pay TV providers as well. Mobile with its smaller screens will as well, as larger **broadband capacity** worldwide rolls out.

4K TV set penetration is forecast to approach 50% of North American homes by 2020, with Western Europe following closely behind. Sports is a leading content category to showcase 4K resolution: Nordic pay-TV operator **Viasat** launched the first satellite-based UHD sports channel in time to broadcast 120 hours of the 2016 Summer Olympics in 4K. Meanwhile, Japan's **NHK** launched 8K broadcasts for the event — a precursor to its broadcast plans and TV manufacturer partnerships surrounding the 2020 games in Tokyo.

High dynamic range (**HDR**) technology, which provides much sharper picture quality, is also becoming more important to 4K TV advances and penetration in the space, with a big push from manufacturers for their HDR-compatible units. Look for 4K and HDR to become more integral in TV screen deployments as well as **broadcast production workflow**, as content begins to catch up to the technology.

Faster **broadband speeds** are also expanding viewing time and options. **Cable broadband** now makes up over 60% of the U.S. fixed broadband market, ahead of fiber and DSL, and **cable revenues from broadband** are expected to surpass $117 billion in 2026. However, mobile broadband is poised to expand at a fast rate with improved pricing and bandwidth, and impact that growth. The FCC's spectrum allocation for **5G** services promises to drive the U.S. market forward on advanced wireless technology. That's good news for companies like Verizon, which is planning its **wireless fiber launch**, and others like Comcast and AT&T that are facing Google Fiber in key markets. Expect to see those battlegrounds heat up.

Thanks to greater capacity and consumer interest, connected apps are also multiplying to provide more viewing options on both large screens via CTVs and small screens via mobile devices — like Vivendi's Studio Plus app for mobile content launched in France and other countries. On Roku devices, **standalone apps**, like those from premium services, are performing better than TV Everywhere (TVE), despite TVE's **continued YOY growth**. Beyond cord cutting, one reason may be that the ease of standalone app use for consumers trumps issues with TVE authentication, which still plagues TVE adoption, although more **standards are emerging**. Importantly, Parks Associates research for a recent Ooyala report found that among U.S. broadband households, over one-quarter of current OTT video service subscriptions were purchased through a **connected device app**, including apps on streaming media players, game consoles, and connected TVs. In such an environment, the ability to quickly launch and monetize app services is a priority, so content providers are turning more towards **out-of-the-box tech solutions** to stay ahead of the curve.

While connected apps are in, STBs as we know them may be on the road to being out. Case in point: Comcast and Charter now provide content via apps on Roku devices without the need for a STB. Apple launched an app that attempts to be a search hub for TV apps, and HGTV and Food Network have a TV app that also lets audiences shop for products on Amazon. The **FCC** has been proposing that U.S. operators open up video content apps and data on their STBs to third-party makers (and requiring new broadband privacy rules) to benefit consumers. However, it may be too little, too late: It's only a matter of time before cloud and internet-based devices, voice-activated and **smart home services** and the internet of things (IoT) take over, while STBs, DVRs and their ilk go the way of the VCR. CTVs already outnumber STBs in U.S. households. Consumers have little qualms in **letting them go** and 2017 will see further steps in that direction.

> The 4K TV market is growing quickly from 55 million units in 2016 to more than 100M units by 2019, achieving 100 percent share of 50-inch and larger TV shipments by 2019."
>
> **—From IHS Markit data, as reported in Business Wire**

While broadcasters, operators and consumers are weighing their investments in these technologies against their ROI, these groups are already turning their attention to the equipment (again, for now) and content surrounding even more forward-looking and deeply-engaging experiences.

3.2 Here's A Reality Check

These days, you can't go anywhere in the industry without hearing about virtual reality (VR), augmented reality (AR) and 360-degree video. Similar to 4K, both large and small screens and bandwidth capacity are key to the rollout of these immersive formats. Market estimates are large: In **China** alone, the market is expected to grow to $8.5 billion by 2020.

Video content quality, production investment to increase content, and the consumer experience all need to improve to fulfill VR's potential. Time Warner and Nielsen are studying **consumer response** to VR via methods including eye-tracking and biometrics to see how they might create better content and ads going forward. Headsets remain an issue; they require a more solitary undertaking and wearing them for more than brief periods is uncomfortable, limiting interest in longer-form VR content. Despite this, the headset market is in full "gear," whether smartphone-based or tethered to PCs and gaming consoles. Tethered systems still deliver the highest-quality VR experiences, so expect to see continued improvements in these offerings as the world becomes more mobile.

Still, content providers are upping their content investments in the space. Everyone from Amazon to Google with its Daydream VR platform is now getting into the game. Netflix and Hulu already have apps that will help drive adoption as they expand compatibility with headset manufacturers, along with new VR content to fill them. Along with gaming and music, live sports is among the VR categories of keen interest. Fox Sports and NextVR recently partnered to broadcast the German Bundesliga football league opener in live VR. Look for future VR offerings to support premium in-venue experiences at sports arenas, more **advanced video players** to support higher content quality, and companies to explore hybrid revenue models like PPV VR programming alongside regular subscriptions to test consumer elasticity for the format.

Meanwhile AR and 360-degree experiences are gaining steam and are attractive because they don't require a headset. Pokemon Go showed how big AR could be; social platforms like Snapchat and Twitter (with NBC) have also been using AR and news broadcasters like CBS have **360-degree apps** now to help audiences more fully engage with stories of interest. Expect both of these formats to expand quickly by being less encumbered by equipment demands.

Ultimately, what will drive full consumer interest and adoption of all of these new formats beyond the experience is deep libraries as well as original and live content that can best be experienced and monetized in a modern way. The broadcast industry as a whole is coming to the same realization.

> "In the next four years, the AR and VR market is forecast to grow to $80 billion. However, the market will grow to $2.16 trillion by 2035."
>
> **— From Citi Global Perspectives and Solutions group study, as reported in Media Post**

TAKEAWAY

Technology promises to shape how video content looks and grows going forward. The industry is moving to a dichotomy of large and small screen experiences, with audiences able to just jump in the middle of it all. Look for broadcasters to employ more consumer-friendly ways for audiences to get and engage with content on their terms.

PROGRAMMING

With the plethora of video content and services now available to consumers, broadcasters and OTT services have realized that original (and local content in many regions), along with superior viewing experiences, are going to be what rises to the top. Add to that live content, which is seeing a big push to OTT, and importantly, within the crown jewel categories of live: sports and news. With all of these elements in place, it's only a matter of time before TV looks and feels the same everywhere.

> "Broadcast is starting to replicate SVOD, that's for sure."
>
> **— Brett Weitz, EVP of Programming, TBS as quoted in Variety**

4.1 Originality is Key

The broadcast industry is experiencing ever-increasing demands for original video content today. Companies like Netflix, NBC, HBO, Disney and Amazon Prime are spending billions on **original content** production to attract and maintain audiences; the two streaming services alone have more than doubled their originals spend since 2013. Industry watchers believe this content uptick will continue, predicting that by 2017, the industry output could reach more than **500 scripted shows**, solidifying the era of what FX CEO John Landgraf once dubbed "**peak TV**." Netflix alone aims to make **50% of its content original** over the next few years, aided by its planned content investment of over $6 billion in 2017. The service is known for its data-driven approach in selecting and analyzing content; for example, it determined that 70% of viewers were **hooked after just two episodes** of its 2016 breakout original series, Stranger Things. Look for more companies (broadcast and OTT) to use data in mapping out their programming spends and renewals.

Many broadcasters are hoping to accelerate the growth of their OTT services by pushing originals to build brand awareness and reduce the aforementioned churn rates. Among these is **CBS All Access**, which aims to reach 8 million subscribers by 2020 with shows like Star Trek: Discovery and a spin-off of The Good Wife (plus they are now airing NFL games). Televisa hopes to beat Netflix and ClaroVideo in Latin America through exclusive content and new originals for its **Blim** SVOD service. Singtel sees its $2 million investment in originals for its **Hooq** joint venture with Sony Pictures TV and Warner Bros. as a way to fill the local language programming gap in India. And **ABC** launched seven short-form originals for its AVOD service.

One of the effects of all of this content is that broadcast schedules are looking more like cable and SVOD schedules, with **smaller season orders** and more anthology series. With more shows going to OTT services instead of syndication, show runs can be shorter, which often also helps maintain their creative quality. However, at the same time, content producers and broadcasters like Scripps Networks have been taking a harder look at **SVOD deals**, and pulling out of those that may cannibalize their opportunities to maximize revenue. Meanwhile, Netflix licensed one of its original productions, Narcos, to Univision to help grow audiences before its next season premiere. Expect to see more hand-wringing about how best to optimize the lifecycle of original content going forward — from both broadcast and OTT services — and creative deal-making to put those plans into action.

In the midst of this, a complex transition is at play, as production and distribution processes are continuing to move to digital, non-linear and **software-based asset workflows**. Broadcasters that are managing video content operations and delivery for both linearly-scheduled networks and newer digital OTT services are facing an array of new costs and challenges. These include handling evolving video standards, like the transition from **Flash to HTML5** for digital video content and ad playout.

The need for more efficiency and return on investment in broadcast video production is growing in response to all of these changes. Content companies everywhere are prioritizing data-driven and cloud-enabled **media logistics** platforms that can automate and streamline production workflows. These also help them keep up with the pace of video (and video asset versioning and subtitling to all of these new outlets) as the industry steps ever closer to IP-only environments. Look for video engagement analytics to be more widely used in informing original content production, providing creative teams with viewer behavior analytics that map against time-coded metadata, and describing all aspects of video assets as they move from commissioning and production to delivery and beyond.

The next big wave for OTT content is what will put it on equal footing with broadcast: The complex and fast-paced world of live TV.

> "Worldwide TV programming expenditure was $129.8 billion in 2015, compared to $128.7 billion the year before."
>
> **— From IHS Markit's World TV Production Report 2016, as reported in Broadband TV News**

4.2 And We're Live

It's still early days for **live OTT streaming**. The quality and availability of premium live content on different platforms and devices versus TV is still growing. However, it promises to be a driving force in the future of OTT. Live offers market differentiation, parity with broadcast offerings and more engaging experiences for audiences that are still connected to the cord. Plus, **broadcasters and viewers** simply want it.

For these reasons, services like Hulu with its planned 2017 live bundle offering will get more and more into the live mix. All content lengths will be in play from shorter clips to extended live TV content like the recent 20-hour live **Australian Ballet** broadcast. Look for live video on social platforms like Facebook Live, Instagram and Snapchat to also move towards scheduled experiences and destination programming like traditional TV — to help attract audiences and drive monetization.

Sports will be one of those key destination programming genres. The 2016 Summer Olympics proved the power of live: 2.7 billion minutes were live-streamed during the games, more than during the last two Olympics **combined**. Packaging will become more key; **Eurosport** has found that audiences will watch live events at any time. Expect to see future Olympic games feature live packages not tied to pay-TV schedules or authentication, incorporating a mix of revenue models moving forward. This flexibility will help broadcasters reach the cord-cutters, cord-nevers and others who don't want to watch on tape delay. Look for **regional sports** live streaming also to grow (as with the deal between Comcast and the NHL), increased **drone camera** use for capturing all of the action, and more SVOD companies to chase live sports deals.

With the **NFL's** live streaming success and with sports consumption **changing**, the industry is seeing more live streaming deals between social platforms like **Twitter** and sports leagues for a reason. It's a great opportunity for the leagues to see how Millennials want to engage actively with live sports content away from TV and how they need to adjust their offerings. Meanwhile, the social companies can give their audiences and advertisers premium live content to increase revenue and stickiness.

Some core issues with live OTT video remain: Broadcasters are still working out how to integrate streaming fully into their linear broadcast operations, and latency in live environments is also a pain point, both from a content and ad perspective. Companies are employing **server-side ad insertion** to helps reduce this on the ad side. Ooyala and Nice People at Work recently looked at how **buffering times impact viewing lengths** for live and VOD content and found that with low ratios between buffering times to session times (less than .2%), VOD audiences will watch 16 minutes longer but live audiences will watch 24 minutes longer. This suggests that live audiences may be more forgiving of latency in live environments right now; however, expect them soon to start demanding live video quality that's consistent with broadcast TV. That will be particularly true of Millennial audiences, who have an expectation of instant access to content.

Moving forward, look for advanced video players that are content-aware and can distinguish live and VOD content for the best viewing experience, along with tightened processes for live transformation and delivery. Broadcasters will also continue to prioritize data and the continuous monitoring of the quality of their live streams as they're happening,

The next wave of live will expand OTT in new and exciting directions. At the same time, monetization is moving on a more targeted path.

> The SUPER BOWL 50 on CBS and NFL digital properties live stream drew 3.96 million unique viewers across laptops, desktops, tablets, connected TV devices and mobile phones. During the game window, viewers consumed more than 315 million minutes of coverage, with an average minute audience of 1.4 million.
>
> — **CBS Sports**

TAKEAWAY

Original, local and live are the big three types of OTT content that will set services apart in a standing-room-only video marketplace. The demands and challenges are large but when done right, the rewards will be as well. And, look for data to drive video content forward in ways that are yet to be discovered.

ADVERTISING

Monetizing video in this new paradigm offers broadcasters both more complexities and more opportunities for growth. The end goals? Reaching audiences on every screen and platform, delivering tailored and engaging ad experiences, and gaining accurate measurement to maximize revenue on ad-supported content. However, the journey there is still littered with obstacles. A data-driven and holistic view of ad sales is emerging as the best path forward as OTT and linear TV continue to dance around each other and step ever closer towards full integration.

> "We've really seen data move substantially in the last couple of years from the nice-to-have to an essential ingredient in the way television advertising is being packaged, delivered and valued."
>
> **— Kern Schireson, EVP Data Strategy, Viacom, as quoted in Adweek**

5.1 We're Following You

Digital video advertising continues to pull revenue away from traditional TV, as marketers like **Magna Global** steer budgets towards new consumer haunts — and ultimately, more direct and real-time sales activation payoff. According to the Interactive Advertising Bureau's (IAB) Video Ad Spend Study 2016, 72% of the over 350 marketing and media buying professionals surveyed said they will **shift funds from TV toward digital video advertising**. Separate IAB research indicates that in the U.S., **ad spending** on original digital video programming has increased by more than 114% since 2014. eMarketer notes that **video and mobile** continue to take bigger slices of the digital advertising pie as it moves closer to surpassing TV ad spend, helping to close the gap between shifting audiences and revenue. And, OTT is the **fastest growing advertising segment** of video ad views. **All's not lost**, however. Traditional TV networks see their share of ad revenue increase steadily by pushing their content out to digital platforms like Hulu, connected apps and online syndication outlets, and building ad opportunities there.

Meanwhile, Millennial-friendly social platforms like Snapchat, along with eSports companies like **Twitch**, are pulling in more audiences and taking a bite out of linear TV viewing time and **revenue** with more engaging offerings. Forward-looking broadcasters like the CW, TBS and NBC are wisely following their lead by investing in similar programming and building partnerships in the social space. Facebook's efforts to integrate ads into live programming will help set the standard for that going forward. Look for social networks, in general, to heavily influence the next wave of new video ad formats, experiences and revenue models.

Despite the fact that linear TV views and advertising are in decline, as recently evidenced by the 2016 Summer **Olympics** and **NFL** season performances, the lack of comprehensive **multi-platform ratings** and attribution continue to hinder progress for full audience tracking and monetization of ad views across all screens. However, the planned 2017 rollout of **Nielsen's Total Audience Measurement** tool, which includes total content ratings across linear, DVR/VOD, mobile, desktop and CTVs, will help bridge the divide. Nielsen is already starting to incorporate STB data into its methodology via its partnership with Dish, while comScore and Viacom now have a cross-platform measurement deal in place. Look for these nouveau ratings to be a focal point of industry conversations as the resulting data is vetted and debated heavily across both sides of the ad table this year.

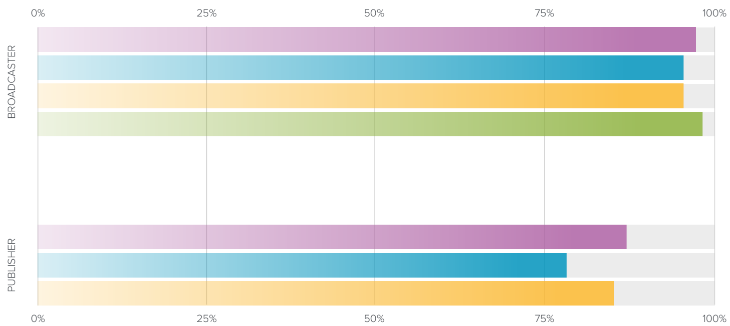
As audiences gravitate towards digital video, more AVOD services like Viacom18's **Voot** in India are emerging and are now better able to monitor viewers for marketers. One recent study found that **consumers prefer free ad-supported TV** to subscription offerings (albeit with more limited and relevant ads). With data, these services are now also able to create smarter ad-load strategies for each screen, including **mid-rolls**, which are fast-becoming the star among ad roll formats, as they best replicate the TV experience.

Networks like National Geographic, TruTV, and Turner have all trimmed their ad loads to entice Millennial audiences to stick around. Viceland is seeing their bets and raising them by running more **native video ads**. Many networks have chosen **ad-free premieres** to help hook fans. Even NBC's Saturday Night Live is reducing its **ad load** in favor of in-show sponsored content to maintain its eponymous live audiences. Interactive ads (such as those Hulu is trying), innovative **ad-data sharing** alliances (like between Viacom and Roku) and creative partnerships between TV networks and digital companies are all growing as everyone is seeking to monetize Millennials. Expect to see these moves and new formats expand, as well as branded integrations in SVOD content to become more widely used — as ads continue to look less and less like, well, ads.

It's none too soon. Millennials continue to retreat from online video ads everywhere. Ad blocking **driven by this group** remains a key challenge globally. In 2017, eMarketer estimates that over 86 million (32%) of U.S. internet users will have an **ad blocker**. High rates have also been seen in countries like **Poland and Germany**. Ad blocker use has risen rapidly on the **mobile web** too, now surpassing desktop use globally (400 million to 200 million). And, binge-watching behaviors have not helped the Millennial attitude towards ads. Solutions ranging from whitelisting to education to technology via **ad reinsertion** for live and VOD content are all in the mix. Yet, better ad environments and more relevant ads remain the core challenges. Look for the industry to make more active changes in combatting ad avoidance with less disruptive, higher quality and more tailored ad experiences driven by data.

The bottom line? With all of this movement across the ad landscape, the alignment of video ad sellers, buyers, audiences and data is more important now than it has ever been.

> For broadcasters, completion rates for mid-rolls averaged 97% across all devices, surpassing pre-roll completion.
>
> — **Ooyala Q3 2016 Global Video Index**



MID-ROLL COMPLETION RATES
BY MARKET SEGMENT
Q3 2016

OOYALA

PC
PHONE
TABLET
CTV

5.2 Let's All Be in Alignment

The greater integration of data within advertising is driving fundamental shifts in how the broadcast industry conducts business. More network groups including Discovery have joined Viacom and Turner in prioritizing a data-driven approach to cross-platform advertising, with guarantees that go beyond traditional age and gender demographics. The recent wave of MVPD mergers also promises to create new opportunities for leveraging data within targeted and advanced **addressable advertising** and demonstrating ROI on ad spend.

For example, the targeted **household viewer data** that MVPDs have at their disposal via STBs supports sales of their ancillary products and advanced home services. It also builds more revenue opportunities via **dynamic ad insertion**, and for many, drives a growing and lucrative side business selling data to TV networks who are keen to fill in gaps about audience behaviors. Look for this audience-first approach versus program-first approach to become more prominent going forward at both national and local levels.

This data will also be key to foster the growth of programmatic TV advertising, which is still solving for the technical and cultural challenges of full integration within a linear broadcast TV system that was built on direct sales. Not to mention the shrinking linear TV audiences who have already moved into the programmatic orbit online. Despite this, eMarketer notes that **programmatic TV** is forecast to reach $2.16 billion in 2017 (more than double last year's figure) and will more than double again to $4.4 billion in 2018. NBCU, which is now offering all inventory programmatically, is one company leading the way. Expect to see others join them in a timely fashion, both in the U.S. and **globally**, as markets like Australia and the U.K. move forward with programmatic TV.

Video ad standards will be critical in helping broadcasters make the most of OTT ad environments. Right now, ad formats and creatives not made for OTT video and connected apps are stifling monetization. IAB standards for dynamic ads and **VAST 4.0** are emerging, but both the buy and sell side need to work on alignment, as well as increasing transparency and communication to reduce fraud and uncertainty. Look for a greater push for ad congruency as OTT becomes a larger part of video ad buys.

At the same time, programmatic tools like **automated guaranteed** are helping to streamline transactions and bring more balance between digital video buyers and sellers. According to recent Ooyala Global Video Index data, **premium video content inventory** continues to grow, particularly in northern and southern Europe, which has a more established programmatic market. Programmatic video, which eMarketer notes is expected to account for 69% of U.S. **digital video ad spending** in 2017, is morphing into a more **holistic** endeavor. Broadcasters are integrating direct and programmatic sales to gain more comprehensive ad decisioning, cost efficiencies and control, sharpen audience targeting and reduce channel conflict. Look for this activity to ramp up in 2017.

Ultimately, the term "programmatic" will fall by the wayside, as digital OTT video and linear TV ultimately become one — solidifying the new industry normal.

> "By 2020, according to Turner ad sales chief Donna Speciale, half of the company's inventory will be sold against guarantees other than the usual Nielsen age and gender demographics."
>
> — **AdAge**

TAKEAWAY

Audiences are on the move to OTT but with new data-driven tools, broadcasters and their advertisers are now not too far behind. Look for them to get more creative in 2017 via innovative formats, different ad loads, less disruptive environments and tailored messaging to entice ad-blocking consumers and earn more revenue, as OTT and linear TV continue to come together.

CONCLUSION

While it's clear that OTT video is the new norm for the broadcast industry, it's still in an early growth spurt, with many iterations to come for consumers, industry players, technology companies, creators and advertisers. Data will be the collective glue that binds them all and helps them charge forward together.

> "With all the doom and gloom of TV dying, a newer version is rising... TV by the old definition is down, but the new TV is alive and well."
>
> **— Daniel Alegre, President of Global Partnerships, Google, as quoted in Adweek**

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