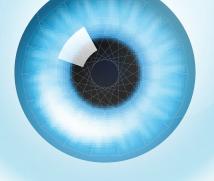


VIEWER WATCH



Looking Ahead To 2017 Viewing

Digital Video Habits Come of Age

BY GEORGE WINSLOW

In many ways, 2016 and 2017 will be go down as landmark years for the TV industry. After years of complaints, excuses, technical hurdles and much hard negotiating, consumers will enter 2017 able to view a vast array of TV content available on just about every available digital platform and consumer-electronics device, with more to come in the next 12 months.

This is a very notable development, though its gradual, evolutionary progress has made the near-ubiquity of digital video less of a headline than it deserves. When *Multichannel News* started this annual report in 2006 and decided to focus on how the changing use of video was affecting the TV business, hardly any high-quality TV programming was available outside of the traditional arena (that is, "over the top"). Even five years ago, a host of issues relating to rights and widespread worries that digital distribution would cannibalize existing businesses, severely limited available content.

Today, many researchers and executives would argue that the proliferation of digital content has generally been a very positive development. Despite widespread predictions four or five years ago that Apple, Google, Amazon and Facebook would use their combined market capitalization of \$2 trillion to swallow the TV industry like a shark digest-

ing a minnow, the industry remains relatively healthy. Cable operators that have embraced new consumer habits, such as Comcast, have even begun adding subscribers, turning around years of declines.

Much uncertainty remains, though. As this year's special report stresses, there are many major debates over basic issues like rate of decline in pay TV subscribers, the size of the potential OTT market and even the usefulness of widely used terms like cord-cutting. By diving into many of those debates and parsing some very complex data trends, we hope this report will once again help readers understand many of the major trends that will have a major impact on their businesses in 2017 and beyond.

In putting together this special report, we are indebted to many people. More than 20 pay TV, network, digital and research executives generously gave of their time, producing over 40,000 words of transcribed interviews that are the basis of the 2017 Viewer Watch feature stories.

A number of research companies also contributed their insights and data. Among the organizations that were particularly helpful in providing data, we'd like to thank Frank N. Magid Associates, Horowitz Research, Magna Global, PwC, Nielsen and SNL Kagan.

Contributing writer George Winslow compiled the data, conducted the interviews and wrote the articles.

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New Normal: Digital Distribution

Changing use of video will keep transforming TV industry

BY GEORGE WINSLOW

With new business models proliferating almost as fast as new consumer-electronics devices at this year's International CES, TV executives are recalling 2016 as a year of landmark changes that will produce even more profound developments in 2017.

"In the last year, there has been more change in the video business than we saw in probably the past five years," said Matthew Strauss, executive vice president and general manager of video and entertainment services for Comcast Cable. "We're just continuing to find the competitive landscape shifting. There are more services being delivered over the top to consumers. There is the growth and proliferation of Internet-connected TV devices like Roku, Apple TV or Amazon Fire. And you are also seeing new services that are delivering bundled over the top channels like Sling TV, Sony's PlayStation Vue and DirecTV Now."

In response, programmers and operators have introduced a flurry of new products. "In terms of video, this has been one of the biggest for Cox in all the years I've been here," Steve Necessary, executive vice president of product development and management at Cox Communications, said.

Less obviously, operators and programmers continue to make massive investments in their technology infrastructures with important implications for their offerings in 2017 and beyond.

"As a company, we are investing and positioning content to be consumed on more and more platforms every day," Discovery Communications chief technology officer John Honeycutt said, stressing that the programmer is rapidly deploying new cloud and software-based infrastructures so it can adapt to consumer needs and quickly roll out new services. "We are in the middle of a revolution in our supply chain."

DIGITAL-FIRST REALITY

Much of this reflects longstanding changes in consumer behavior and the underlying economics of the TV, digital and media industries.

Vincent Letang, executive vice president of global market intelligence at Magna, said 2016 was the first year digital advertising exceeded total TV advertising in the U.S., garnering 39% of the total ad spend versus 37.4% for TV. Digital advertising is set to exceed total TV advertising worldwide for the first time in 2017, he added.

"We are forecasting that in five years, digital will grow to 56.0% of total advertising [in 2021 in the U.S.] while TV will plateau at 29.9%," he said.

Meanwhile, content creators and distributors are following the flow of money into digital media, fueling rapid growth in consumption of TV shows on mobile devices, computers and TVs con-

TAKEAWAY

Changes in how video is watched made 2016 a transformative year for the pay TV industry, and those shifts will keep coming this year.

nected to the Internet.

"The cliché of how consumers 'want my content when I want it, where I want it and how I want it,' is now a truism," Mike Vorhaus, president of Magid Advisors at Frank N. Magid Associates, said. "Just five years ago, it was hard to find a lot of content. But now, in 2017, I'm really the captain of my media ship in a way that was not true in the past."

Given ongoing rapid growth in the usage of mobile and connected TVs, it is difficult to call digital video "mature." But researchers stress that the tectonic changes in how video is consumed and delivered have already made digital media a central part of the TV business

"After four or five years of talking about alternative ways to access video and watching significant growth in its usage, we are now at a point where it is pretty much established," Howard Horowitz, president and founder of Horowitz Research, said. "It's not a fly in the ointment, but part of the business. Digital self-managed access to video content is with us and mostly that is a good thing for all the players."

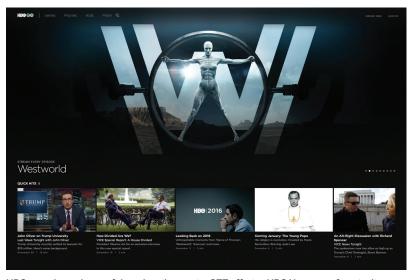
DISRUPTIVE GAINS

Others agree. After ticking off a long list of new products and initiatives designed to realign their offerings with newer consumer behavior, Comcast's Strauss said: "Our third-quarter video results were the best we've had in 10 years. We added 32,000 video customers, which is an 80,000 improvement year over year. And if you look at the last 12 months, we are video-positive."



"There are about 20 million households in the U.S. that are either not engaged with pay TV or have opted to leave the pay TV ecosystems."

TONY GONCALVES, AT&T ENTERTAINMENT



HBO says that only 1% of the subscribers to its OTT offering HBO Now came from its linear pay TV subscribers.

Some programmers have been buffeted by the changes, which have hurt ratings, but those that have aggressively moved to capitalize on the newer delivery platforms are pleased with the results.

Bernadette Aulestia, executive vice president of worldwide distribution for HBO, noted that the launch of the OTT service HBO Now has allowed the programmer to tap into new markets and see healthy growth in the overall business. "Less than 1% of [the OTT] HBO Now subscribers are coming from our linear multichannel subscribers," she said.

Executives from Dish Network and AT&T cited similar experiences with their respective OTT channel bundles, Sling TV and DirecTV Now, which are designed in part to tap into viewers outside of the pay TV ecosystem.

"There are about 20 million households in the U.S. that are either not engaged with pay TV or have opted to leave the pay TV ecosystems," Tony Goncalves, senior vice president of strategy and business development for AT&T Entertainment Group, said.

That doesn't mean that the industry can sit back and pretend it will be business as usual in 2017.

> An acceleration in the decline in pay TV subscribers has caused Magna to revise its estimates of pay TV subscribers downward. There is also a great deal of uncertainty about

> These trends raise important questions about the changing use of video on various platforms — traditional TV, mobile, Internetconnected TVs, set-top boxes and other technologies. How these trends will impact the health of the industry and the kind of products that get launched in 2017 is the subject of the next story.

Old Controversies And New Businesses

Embrace of digital media, OTT offerings helps both operators and programmers

BY GEORGE WINSLOW

Though TV has long been a numbers game, hard data showing changes in the way consumers access video remains a hotly debated subject.

It's not just that there's considerable disagreement over how to interpret these changes among executives overseeing what Magna calls the \$67 billion TV ad market and PwC describes as the \$101 billion subscription pay TV business. There is also much grumbling over the kind of data that is available to answer these multibillion-dollar questions.

"I don't think we've made as much progress as we should have made" in measuring the consumption of video on all platforms and devices, Turner Broadcasting System chief research officer Howard Shimmel said.

There also isn't much agreement on how the growth in multiplatform video consumption will affect pay TV subscriptions. Some contend that the rise of over-thetop streaming options will sharply reduce the pay TV subscriber ranks; others believe the issue is much more

"From its peak in the first quarter of 2012, the major providers have lost about 1.8 million subscribers," Bruce Leichtman, president and principal analyst at Leichtman Research Group, said. "The industry is clearly saturated and in a slow decline."

Interpreting those numbers remains controversial, in part because data on the size of the pay TV universe rests on different assumptions. Leichtman, for example, includes data from services like Sling TV in his company's estimates, while SNL Kagan does not.

Nielsen also provides different numbers. It reports the number of homes that have TVs connected to a pay TV service, which is different than the number of total pay TV subscribers reported by operators, Nielsen ex-

Programmers and operators are reporting rapidly increasing usage on connected-TV devices like Roku, which offers a unified search engine across over 100 content partners.

Take**away**

Content-industry players continue to work through the particulars of measuring viewership across the wide array of emerging platforms. ecutive vice president of research Glenn Enoch said.

"You have to be very careful about the numbers you use and [about] drawing a straight line from those numbers to revenue, because things are much more complicated than that," he said.

CORD-CUTTING CALCULUS

A number of researchers agreed. The proportion of "people dropping pay TV subscriptions is now about 2.6%," Leichtman noted, which is about the same rate as 10 years ago, when the industry was growing.

"The problem is that the number of new customers has declined," Leichtman said. "We only see 1% [of homes] moving into pay TV. That is down from 3.5% a decade ago and it has had a real impact on the dynamics of the pay TV industry."

The declines have been smaller than some had expected, SNL Kagan research director Ian Olgeirson noted. "We are seeing a slight acceleration in the decline in subscribers for multichannel services from a roughly 1% decline in 2015 to a decline of what will probably be 1.3% or 1.4% in 2016," he said.

The causes of those declines are also hotly debated. "Service providers would say that a lot of those declines are driven by price" and economics, Olgeirson said. But that isn't MARC DEBEVOISE, CBS INTERACTIVE the whole story, as the economy has

rebounded and housing starts have grown over the past two years, he said.

A recent Frank N. Magid Assoicates survey found that

75% of likely cord-cutters said the ability to watch content via the Internet and OTT platforms was a key reason to drop pay TV service, Magid Advisors president Mike Vorhaus said. Only 29% of respondents cited costs.

Research also challenges the prevailing assumption that pay TV and SVOD services are competing offerings, said Howard Horowitz, president and founder of Horowitz Research, who sees them as complementary to traditional pay TV.

> Horowitz survey data shows that 52% of whites and 58% of Hispanics have both a multichannel subscription and a subscription VOD service, while only 5% of whites and 6% of Hispanics have just a SVOD service.



"We are seeing

explosive usage in

those connected TV

experiences ... Time

spent on connected

has grown by more

than 300%."

TVs with our products

STAGNANT AD SPENDING

Much unease also surrounds the ad market. Brian Wieser, senior research analyst, advertising at Pivotal Research Group, said the economy faces considerable uncertainty over the next year.

"I don't think anyone can say with any certainty what is going to happen next and that uncertainty is going to curtail advertising," he said.

National TV ad revenue will drop slightly by 0.4% in 2017 to \$44.6 billion, Wieser predicted, and remain essentially flat through 2020, when it will hit \$45.2 billion.

Magna's Letang also sees a weak TV ad market combined with bullish prospects for digital media. "In 2017, we see high single digital inflation [in pricing] but high single-digit declines in ratings," Letang said. "National TV

will be up 1% in 2017 from 2016 if you exclude P&O" meaning the 2016 revenue from political ads and the Summer Olympics — "and down 1% if you include P&O."













VIEWER WATCH report



Some 1.3 million unique users live-streamed ESPN's coverage of the Nov. 26 Michigan-Ohio State college football game.

With political and Olympics spending included, Magna projects that total TV spending will drop by 4.8% to \$64.2 billion in 2017, declining further to about \$62.2 billion in 2021.

Digital spending, though, will continue to grow rapidly. By 2020, Magna forecasts that mobile advertising will more than double to \$78.4 billion (38.2% of all advertising) and social media will hit \$31.8 billion in 2020 (a 15.5% share). TV, meanwhile, will slip to a 32.4% share.

Given the uncertainty over the ad market and pay TV subscriptions, programmers and operators have been rethinking their operations.

NEED TO BE NIMBLE

The drive to adapt to new consumer habits has prompted a number of projects to make operations more nimble, Discovery Communications chief technology officer John Honeycutt said.

For example, Discovery's recently deployed "On Ramp" project allows about 80% of the content produced by 600 production suppliers to be uploaded to the Amazon cloud, where it can be immediately available to Discovery employees and channels all around the world.

"Going from 0% to 80% makes us so much more flexible and efficient," Honeycutt said.

Equally dramatic upgrades are occurring in the pay TV infrastructure. After ticking off a long list of new products and initiatives to deliver more content to more devices, Comcast Cable executive vice president, general manager, video and entertainment services Matthew Strauss noted that these efforts are built on major improvements to the MSO's infrastructure.

"We are rolling out DOCSIS 3.1," he said. "We are rolling out Gigabit speeds. We are transitioning more and more to all-IP, which will allow us to innovate and deliver more of these newer services."

Rapid innovation has also become the norm for dig-

ital platforms. "In 2016, we launched 30 new products and made hundreds of enhancements on dozens of platforms," Alex Wellen, senior vice president and chief product officer at CNN, said.

Much remains to be done, particularly in the area of measurement. This year will mark a notable improvement on that front, with Nielsen planning to begin syndicating its Total Content Ratings on March 1.

"But some of the networks have been saying they won't be ready for Nielsen's public rollout in March, and it isn't clear if everything will be ready in time for the upfronts," Jane Clarke, CEO and managing director of the Coalition for Innovative Media Measurement (CIMM), said. "It is a very complex process to get it implemented in the apps for every kind of player and all the devices."

Others worry about the TV industry's ability to maintain its share of ad spending without better data. "Measuring crossplatform video consumption is important, but it is a 2006 problem," Turner's Shimmel said. "Today, when we talk to advertisers, what they really care about is outcomes [such as sales] and I don't see that kind of measurement anywhere in Nielsen or comScore's future."

More debates surround commonly held perceptions of the OTT market.

Michael Leszega, senior analyst of market intelligence at Magna, said that "in 2016, we have [more than] 25 million cord-cutters and cordnevers," and that this group will con-

"Today service providers have to figure out how to target different individuals in household. That is a tough challenge but I think it is really the keys to the kingdom."

JOE ATKINSON, PWC

tinue to grow. By 2020, he predicted, about 28.6% of all households will be outside the traditional pay TV ecosystem. "It is a sizable portion of the population that can't be ignored," he said.

That has prompted a number of companies to develop streaming bundles of channels like Dish Network's Sling TV, Hulu, Sony's PlayStation Vue and AT&T's DirecTV Now.

"If you look at the rumors about Amazon or YouTube coming out with OTT bundles, there could be a whole bunch of them, maybe seven or eight by the end of 2017," Steve Shannon, general manager of content and services at Roku, said.

Tony Goncalves, senior vice president of strategy and business development for AT&T Entertainment Group, described DirecTV Now "as a mobile-first-centric platform" that will deliver the kind of advanced digital features consumers expect from their mobile apps.

"DirecTV Now is pay TV as an app and it opens up a market that has not historically been addressed by pay TV," he said.

Dish Network also sees great promise in the melding of pay TV packages, OTT delivery and app experiences, Niraj Desai, the company's vice president of product management, said.

"TV is becoming an app," he said. "We have been talking about that trend for a while, but 2016 was really the year TV as an app came into its own" with better TV everywhere offerings and the streaming OTT bundles such as Dish's Sling TV and DirecTV Now.

COMPLEMENTARY PLAYS

Even better, these products open up new markets and are not designed to cannibalize traditional pay TV offerings, he added. "Sling is complementary to DBS," he

> said, meaning Dish and DirecTV's satellite-TV platforms. "Sling overindexes with urban millennials and DBS resonates with suburban and more rural customers that are more traditional TV watchers."

> Similar views come from programmers that have aggressively targeted consumers without traditional multichannel-TV subscriptions.

> "We launched HBO Now with the theory that its subscribers were going to look very different from the traditional subscribers," Bernadette Aulestia, executive vice president of worldwide distribution at HBO, said of the premium programmer's standalone app.

> HBO Now subscribers are 10 years younger than customers of HBO's premium cable network and typically live in broadband-only households, she said.

"We look at it as an entry point to customers that are coming into the category," Aulestia said.

The growing popularity of skinny bundles and streaming OTT offerings has also helped HBO's premium pay TV business, she added.

"There was a time, as a premium service, that we were only sold at the top of the bundle," Aulestia said. "The idea that HBO should be sold at every level of the bundle, and even as a standalone service, means there are fewer barriers to get HBO."

The rise of OTT and skinny bundles has been more worrying for ad-supported networks.

"Getting more creative packaging of content to create more customized solutions for the consumer can be very challenging for content providers because you have increasingly fragmented audiences," Joe Atkinson, technology, infocomm, entertainment and media advisory leader at consultancy PwC, said.

Atkinson and others said OTT distribution can also open up a number of new opportunities.

For instance, the growing SVOD market encouraged Turner's recent launch of an OTT movie service called FilmStruck, Coleman Breland, president of Turner Content Distribution and president of TCM, said.

"As the bundle became tighter, we decided to go direct to consumer instead of trying to launch a linear network and push it through the ecosystem," which would be difficult in the current pay TV environment, he said.

Turner has also been pushing to expand the content made available on all platforms both in terms of reach and quantity, with the addition of offerings like full seasons on-demand.

"We now have 450 affiliate partners for our TV everywhere products" and have seen usage jump by "triple digits" in the last year, Breland said.

TIME TO TARGET

Many of these newer products can be traced to a more fundamental change in the way op-

"Today, service providers have to figure out how to target different individuals in household," PwC's Atkinson said. "That is a tough challenge, but I think it is really the keys to the kingdom."

erators think about their customers.

One example of such a targeting effort is the development of packages targeted to consumers at different life stages. "College students have different needs than a single-family home with kids, and we are very focused on meeting all those different needs," Comcast's Strauss said. He said the Xfinity on Campus product has been a success in that regard.

Operators have also been greatly expanding the content sources via apps on Internet connected set-top devices such as Dish Network's Hopper. "You can watch live TV with your Dish subscription, or recorded TV on your DVR or you can watch Netflix and YouTube all in one convenient place," Dish's Desai said.

Adding more choices has also been a top priority for Cox Communications, Steve Necessary, executive vice president of product development and management at the Atlanta-based cable operator, said. "We have more than doubled our VOD offerings from 50,000 to over 120,000," he said.

Hopper 3.

dish.

Cox also has revamped its TV app to expand the content available on digital devices and speeded up the rollout of Contour — Cox's version of the Comcast XI Internetconnected set-top platform — from 3,000 customers to more than 600,000 in 2016.

Very importantly, such efforts are also beginning to pay off. Both Comcast and Cox are seeing some of their best video-subscriber efforts in a decade.

Programmers are also reporting strong gains from their digital platforms.

"There is a blending of content types and expansion of the platforms," translating into some record-setting numbers, ESPN vice president of digital media research and analytics Dave Coletti said.

In year when some live sports audiences have declined, Coletti noted that Watch ESPN's live stream of the Nov. 26 college-football game between third-ranked Michigan and second-ranked Ohio State — which went into double overtime before OSU prevailed, 30-27 — tallied 1,273,000 unique viewers, making it ESPN's most streamed regular

college football game. (The game telecast also aired on ABC.)

"Eight of our top 10 most-streamed regular season college football games have occurred this year," he noted.

The 2016 presidential election helped CNN set a number of network records, Wellen said, including a record audience level on Nov. 9 with 77 million unique users, 83 million video starts, 483 million page views and 29 million live streams.

Equally notable was social media. CNN racked up 169.7 million video views on Facebook and 47.6 million Facebook Live views, he said.

"Those results show that it has become very important to be both a destination for content and a distributed brand," he said. "We have apps and websites where people can access our content but, we've also seen that we can be very successful on Facebook Live" and other outside platforms.

Additional encouraging news can be found in TV use, Nielsen's Enoch said. "The decreases that we saw in TV usage that really started to accelerate in the mid-2014 have lessened," he said. "TV consumption remains at near record level."

"We are also seeing a shift back to the more traditional way of hooking up a TV" to a pay TV service or an antenna, he added. "The universe of homes that can watch TV or can stream video to the big screen has actually grown," reversing a trend that began with the digital transition and the 2008 recession.

That said, Enoch said the "fastest growing area of overall usage — not just video — is the smartphone."

In the second quarter of 2016, Nielsen reports that consumers ages 18-34 spent almost as much time each week with their smartphones (14 hours and 36 minutes) and tablets (three hours and 27 minutes) as they did with traditional TV (18 hours and 27 minutes).

Less discussed but equally important are connected TVs.

"TVs connected to the Internet by any device have grown from about one-quarter of all households in 2010 to about two-thirds of all households," Leichtman said. "There are now more connected TV devices in American than there are pay TV set-top boxes."

Said CBS Interactive president and chief operating officer Marc DeBevoise, "We are seeing explosive usage in those connected TV experiences." He added that "time spent on connected TVs with our products has grown by more than 300%."

As an illustration, consumers in October of 2016 spent about 347 minutes per month consuming CBS news content via desktop computers, compared with 360 minutes via Apple TV and 496 minutes via Roku, per unique viewer, DeBevoise noted.

"That is a lot of usage, and we are spending a lot of time making certain we can capitalize on that by getting those experiences right," he added.

LINES ARE BLURRING

Connected TVs also offer much more advanced capabilities for search and discovery. For example, the Roku platform allows users to search for TV shows and movies across more than 100 apps, Roku general manager of content and services Steve Shannon said.

Advanced features are helping to blur the line between connected devices, pay TV operators and the new bundles of streaming channels.

Companies such as Hulu and Sling are increasingly bundling their subscription packages of channels with a free Roku, Shannon said. Also, Charter, Comcast and a number of other operators have either launched or plan to launch TV everywhere apps on the Roku platform so that subscribers can access a large bouquet of channels on the pay TV apps, he said.

"You have the normalization of OTT, where you are seeing massive amounts of traditional broadcast style content viewing on OTT platforms," Shannon said.



"As the bundle became tighter we decided to go direct to consumer with FilmStruck instead of trying to launch a linear network and push it through the ecosystem."

COLEMAN BRELAND, TURNER CONTENT DISTRIBUTION

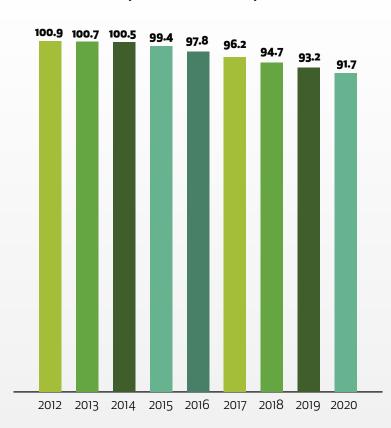


The Multichannel TV Landscape

Magna Global has revised downward its projections for multichannel homes and now predicts there will be about 91.7 million pay TV homes in 2020, a drop of 9.2 million homes from 2012. Another major change in those projections is that telcos will show significant losses, while cable subscriber losses will moderate.

Total Multichannel Households

(Millions of U.S. Homes)



Total Cable Subs

(Millions of U.S. Homes)



Total Satellite Subs

(Millions of U.S. Homes)



Total Telco Video Subs

(Millions of U.S. Homes)



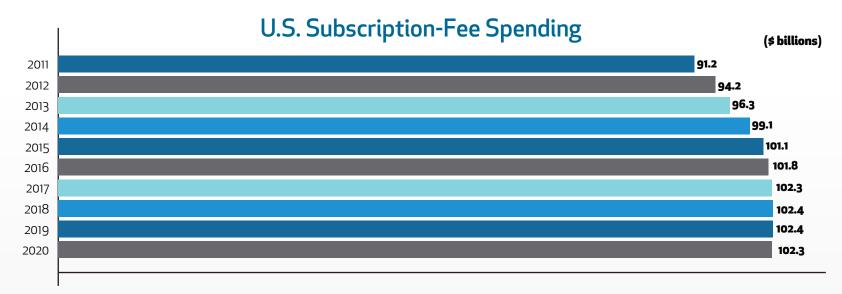
SOURCE: Magna, Media Access Quarterly, October 2016. Actual homes for 2012-2015; projections for 2016-2020



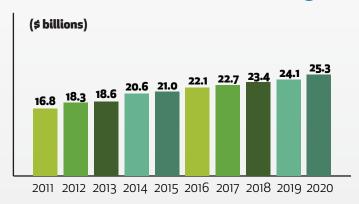


The Multichannel Business

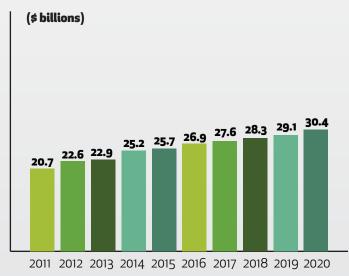
Amid ongoing subscriber losses, PwC forecasts that U.S. subscription-fee spending will remain flat at around \$102 billion over the next few years, while total multichannel advertising will grow from \$27.6 billion in 2017 to \$30.4 billion in 2020.



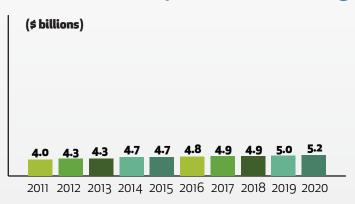
Cable Network Advertising



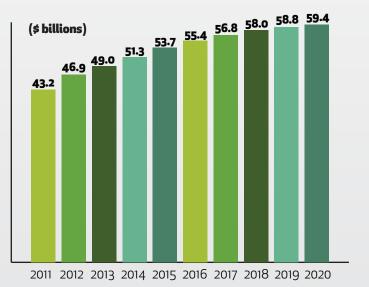
Total Multichannel Advertising



Multichannel System Advertising



Fixed Broadband Access Spending

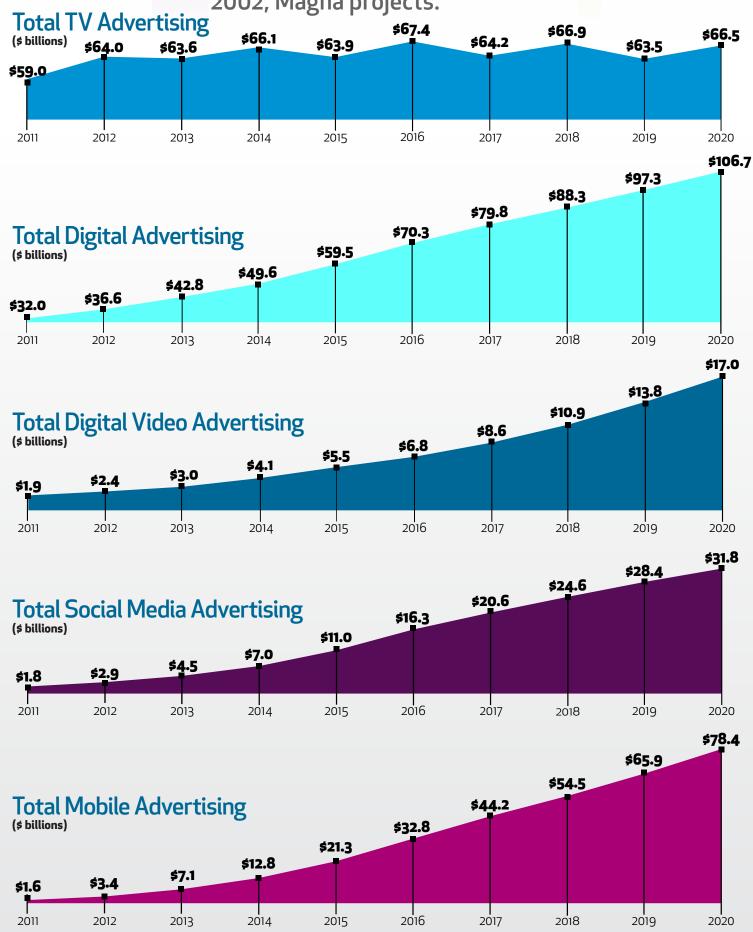


SOURCE: PwC, Global entertainment and media outlook: 2016-2020. Preliminary data for 2015; projections for 2016 to 2020



The Advertising Landscape

Digital video advertising will hit \$17 billion by 2020, up from \$16.8 billion in 2016, while TV advertising will decline slightly from \$67.4 billion in 2016 to \$66.5 billion in 2002, Magna projects.



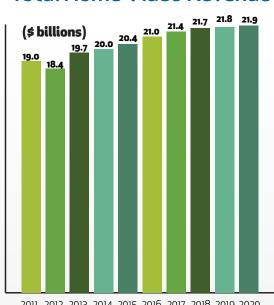




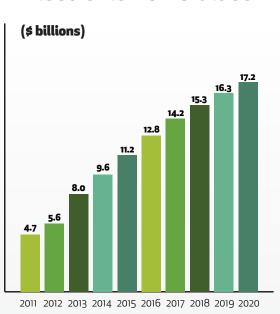
The Content Game

PwC predicts hefty growth for the electronic home-video sector to \$17.2 billion in 2020, but the total home-video market is expected to stay relatively flat, growing from \$21 billion in 2016 to \$21.9 billion in 2020. Meanwhile, sports media rights will hit \$21.3 billion and the total North American sports business will top \$75.7 billion by 2020.

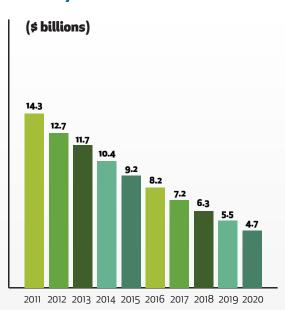
Total Home Video Revenue



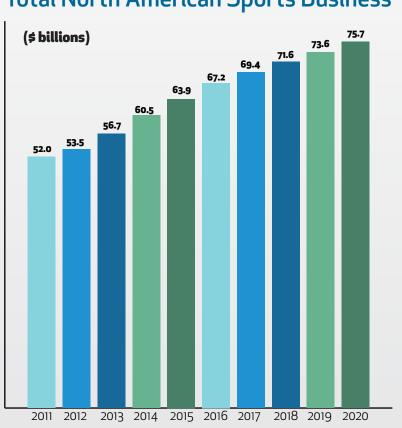
Electronic Home Video



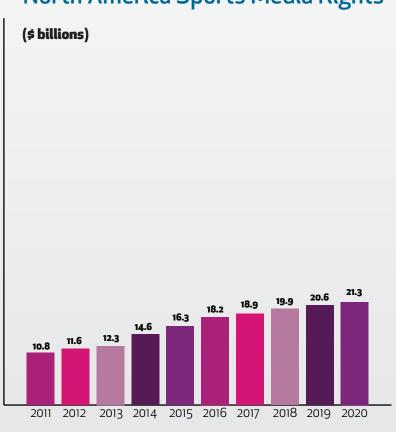
Physical Home Video



Total North American Sports Business



North America Sports Media Rights

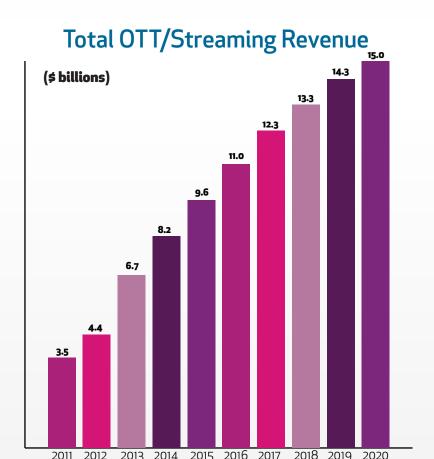


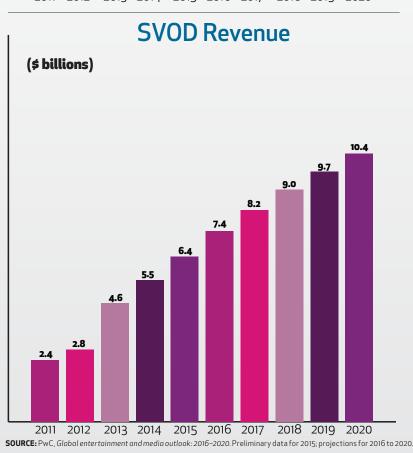
SOURCE: Revenue for home video from PwC, Global entertainment and media outlook: 2016–2020. Preliminary data for 2015; projections for 2016 to 2020. Sports data from PwC, At the Gate and Beyond: Outlook for the Sports Market in North American through 2020, October 2016.

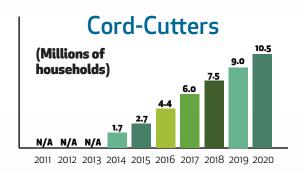


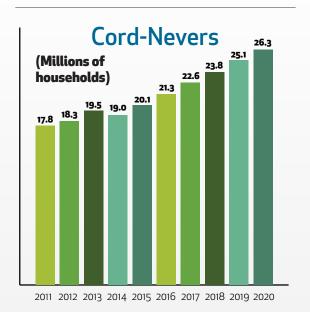
The OTT Landscape

Revenue from over-the-top and streaming services will jump from \$9.6 billion in 2015 to \$15 billion in 2020 according to PwC, while Magna predicts that the number of cord-cutters and cord-nevers will top 28% of all U.S. homes by 2020, up from 15% in 2011.



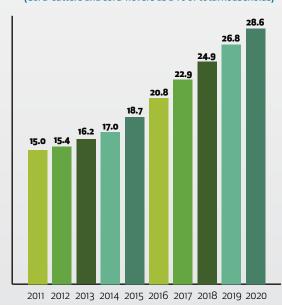






Proportion of Homes Outside the Pay TV Ecosystem

(Cord-cutters and cord-nevers as a % of total households)



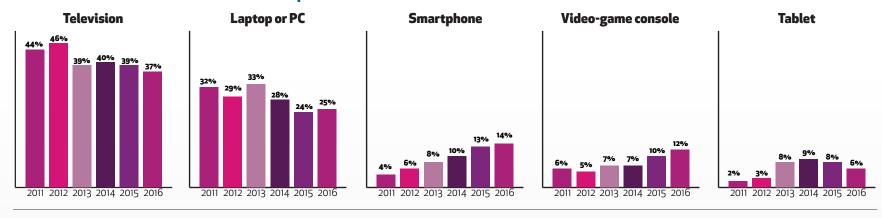
SOURCE: Magna, *Media Access Quarterly*, October 2016. Actual homes for 2012-2015; projections for 2016-2020.



The Emerging Platform Landscape

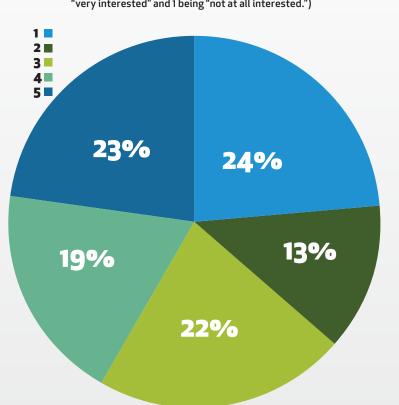
A majority of users now select a digital platform as their primary technology for entertainment, according to recent survey data from Frank N. Magid Associates, which also reports increased interest in live-streaming video and virtual reality technologies.

Top Platforms for Entertainment *



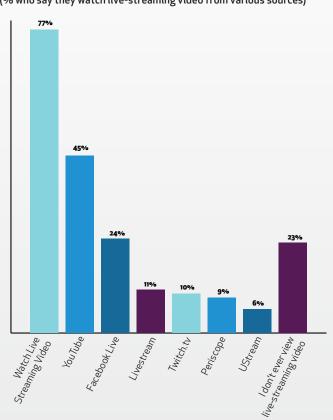
Interest in Virtual Reality

(Interest in an in-home virtual reality experience with 5 being "very interested" and 1 being "not at all interested.")



Popularity of Live-Streaming Video

(% who say they watch live-streaming video from various sources)



Primary Medium for Entertainment Content By Age (Respondents told to select only one)

Video-game A connected **Tablet Television** Laptop or PC **Smartphone** console TV device Total 12% Total 37% Total 25% Total 14% Total 6% Total 6% Millennials 21% Millennials 31% Millennials 20% Millennials 16% Millennials 5% Millennials 6% Plurals 20% Plurals 22% Plurals 21% Plurals 18% Plurals 13% Plurals 5%

 $^{{\}rm *Respondents\,were\,asked\,to\,name\,only\,one\,technology}.$

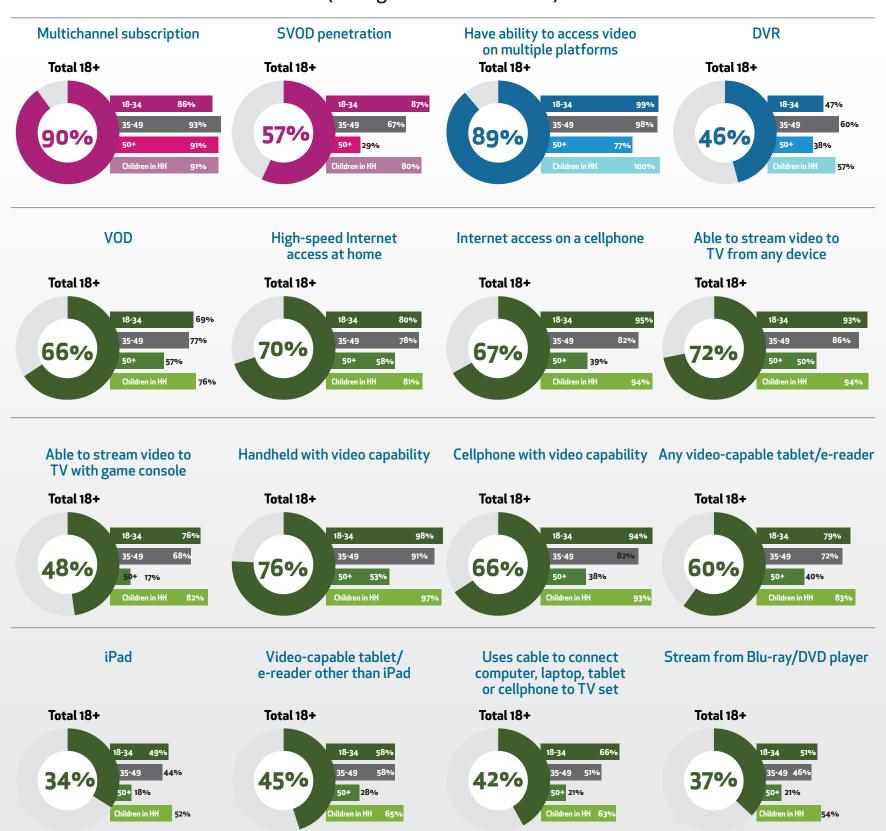


The Multichannel, Multidevice Landscape

Penetration of SVOD services among the 18-34 demo has hit 87%, slightly higher than the multichannel subscription rate, according to Horowitz Research, which also reports that almost everyone in the demo is able to access video via multiple platforms.

Electronic Devices and Services

(Among viewers of TV content)



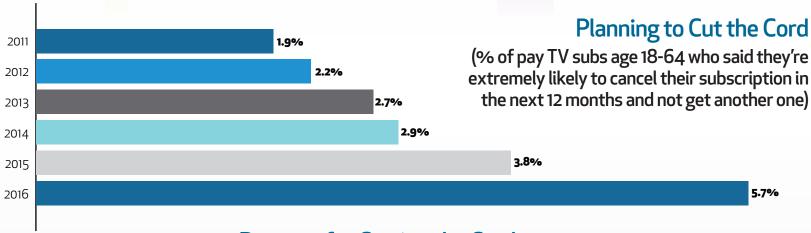
SOURCE: Horowitz Research, State of Cable & Digital Media, 2016





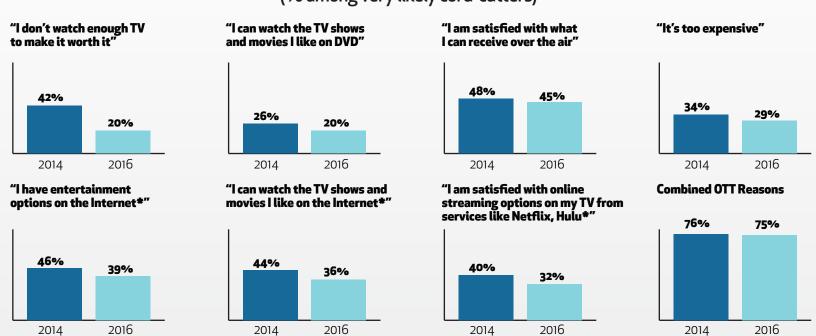
The Cord-Cutting/Skinny Bundle Landscape

The availability of content from OTT sources is now the most common reason why people seriously consider cutting the cord, per recent research from Magid



Reasons for Cutting the Cord

(% among very likely cord-cutters)



^{*} Options that are included in the combined OTT reasons

Most Demanded Channels in Skinny Bundles

(Respondents who said they were very interested or interested in skinny bundles were asked to choose up to five channels to include in the slimmed-down package)

1	HBO	31%
2	ABC	29%
3	CBS	24%
4	NBC	19%
5	History	17%

6	Discovery Channel	17%
7	CNN	17%
8	A&E	17%
9	ESPN	16%
10	TNT	15%

11	AMC	15%
12	HGTV	15%
13	Fox (broadcast network)	14%
14	Food Network	13%
15	Fox News Channel	13%

16	USA Network	12%
17	Syfy	11%
18	Disney Channel	11%
19	Cartoon Network	10%
20	Comedy Central	10%

 $\textbf{SOURCE:} \ \textit{Magid Media Futures 2016.} \ \textit{Based on a nationally representative online survey of 2,400 consumers age 8-64; } \ \textit{data collected from July 21-Aug. 5, 2016.} \ \textit{Source Survey of 2,400 consumers age 8-64; } \ \textit{data collected from July 21-Aug. 5, 2016.} \ \textit{Source Survey of 2,400 consumers age 8-64; } \ \textit{data collected from July 21-Aug. 5, 2016.} \ \textit{Source Survey of 2,400 consumers age 8-64; } \ \textit{data collected from July 21-Aug. 5, 2016.} \ \textit{data collected from July 2$

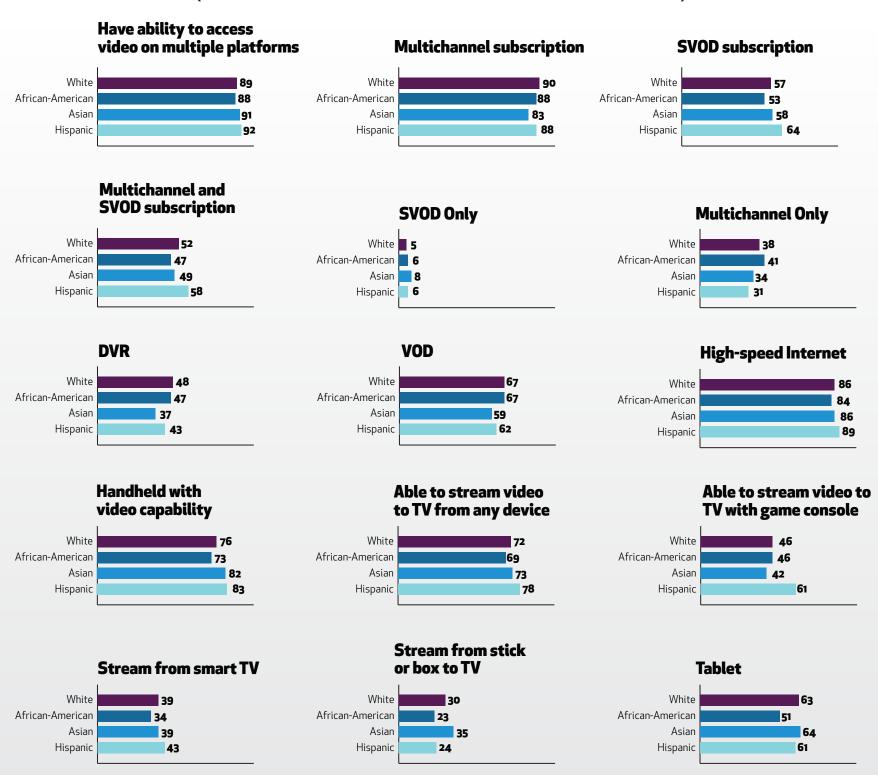


The Multicultural, Multimedia Urban Landscape Hispanics have embraced digital video in a big way, with 92% of urban Hispanics able to

access video via multiple platforms and 64% reporting they have an SVOD service — the highest levels of any ethnic group in urban locales, according to Horowitz Research.

Ethnic Groups and Video Technologies

(% of urban viewers of TV content who have the device or service)



SOURCE: Horowitz Research, State of Cable & Digital Media: Multicultural Edition, 2016