

8. The New TV

8.1 The State of the New TV Industry



Over the decades, the ways audiences have consumed television have seen continuous and dramatic shifts, leading pundits to proclaim “TV is dead” or “TV is dying.” TV is not dying, but viewing habits are changing more quickly than ever.

The traditional notion of families across the country sitting down after dinner to watch a series of programs scheduled at 8, 9 and 10pm has fallen to the wayside. The TV universe—originally made up of a handful of networks

broadcasting over public airwaves on a one to many basis—has been evolving over the decades. The shift was initiated by the adoption of subscription cable from the mid-70s to the 80s, followed by the arrival of the internet, digital television, and the proliferation of mobile and connected devices to which we’re all tethered.

Television content is now being consumed in more places than ever before. Under the umbrella term “Advanced TV” exists the digital off-springs of the broadcast era: Interactive TV (which may appear as digital overlays on top of linear TV commercials), Connected TV (CTV) / Over-the-Top (OTT) and Smart TVs, Linear Addressable TV—where ads targeted to specific households are inserted into live programming (i.e. DirecTV, Dish, Cablevision)—and Video-on-Demand Addressable—where dynamic ads are inserted into cable programs through the cable provider’s set-top box (ex: Comcast’s VOD).

Welcome to the new world of data-driven, addressable, accountable, and increasingly automated television where audience is as important as content and context.

The digital habits of millennials are influencing the industry like never before, which is responding by creating more individualized experiences that reflect the consumer’s expectation for a personalized on demand viewing.

With the leading streaming services (Amazon, Hulu, Netflix, etc.) now creating their own original shows, **differentiated programming/content** is becoming a **critical competitive advantage**. HBO’s *Game of Thrones* and *House of Cards* from Netflix are wildly popular among consumers and critics alike. In response to these new entrants, linear TV networks have begun to use over-the-top (OTT) distribution channels for their own content: *This Is Us*, an NBC show, is now streamed on Hulu, and *Narcos*, a Netflix original, now streams on Univision. Traditional TV has before it a great opportunity to continue its longstanding relevance and reinvent itself by capitalizing on the use of first and third party consumer and viewer data.



“Data will prove to be the connective tissue and winning ingredient to ensure the success of the new entertainment experience. There’s a lot of talk about the marketplace becoming increasingly ‘fragmented’, however a more accurate description might be that it’s becoming increasingly “interconnected”, with consumers seamlessly accessing content across more screens than ever before. The lines between desktop, mobile, TV, and film are beginning to blur as the various platforms are often more distinguished by differences in use case than by the underlying technology.” —Anne Schelle⁴³, Managing Director, Pearl TV

⁴³ [Lotame](#) Bridge the TV ad gap & [PWC Media forecast 2015, agency reports, front row advisory analysis](#)

Josh Chasin, Chief Research Officer at comScore, offered an analogy for why he believes the silos in traditional and emerging media are temporal and the dichotomies between digital video and TV are breaking down:



“My nephew is now 24, but I remember trying to explain to him the difference between broadcast and cable when he was five. When I was a kid, I watched a static-filled channel 2 until one day we got cable, and it was revelatory how it changed the experience. I realized that my nephew, born in 1993, had never been in a home without cable, so explaining the difference between an ESPN or Disney versus CBS was meaningless to him. It’s not about whether it’s TV or video, broadcast vs cable—it’s about the experience.”

The way that consumers watch video content is in a constant state of flux. The era of marketers collectively reaching customers on their couches during prime time is disappearing, as many viewers prefer to watch their shows at a time and place of their choosing. Some consumers no longer own a TV (cord cutters) and others never have (cord nevers).

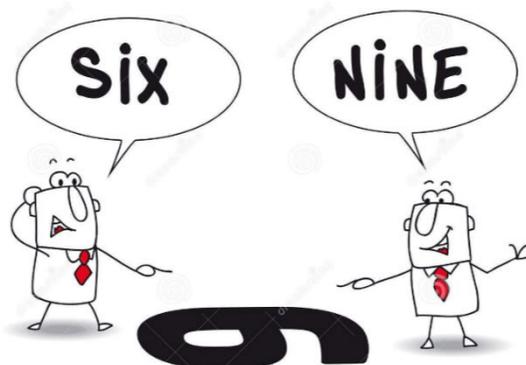
TV habits are not only shifting more towards other screens but other times as well. Consumers, particularly the coveted millennial demographic, are watching content at their preferred time, replacing live and scheduled-linear TV with more time-shifted TV on-demand experiences exemplified by SVOD (subscription video on demand).

Audiences across the board are sending a clear message that they want and expect to control their own viewing activities. And while Traditional TV remains a big part of advertiser’s media spend, the growth in digital / mobile viewing combined with audience data and automated buying and selling is changing the TV video industry.

8.2 OTT (Over-the-Top) / Streaming Services Defined

Before we jump into the OTT ecosystem, it’s important to discuss what the term OTT means.

- One camp sees the OTT streaming video experience as being within the confines of a TV screen (enabled through various technologies from streaming sticks and boxes (Apple TV / Roku / Chromecast), to video game consoles and Smart / Connected TVs).
- Another camp includes streaming video content beyond TV screens to include delivery to smartphones and tablets.



The IAB definition is focused on the *big screen*, and describes OTT as a “device that can connect to a TV (or functionality within the TV itself) to facilitate the delivery of iInternet-based video content (i.e. streaming boxes, media streaming devices, smart TVs, and gaming consoles).

The MRC also defines OTT in the context of the TV screen, and includes both IP set top boxes that receive signals from digital video ad servers (and widgets on them) as well as USB and HDMI multimedia devices. IAB and MRC agree that the TV-screen centric definition makes sense at this time.

The media measurement community is also in agreement, as comScore, Nielsen and MOAT also measure OTT within a TV screen audience context. As OTT continues to evolve, IAB and its committees will continue to revisit the definition.

8.3 The OTT / Connected TV Opportunity

OTT ad revenues are projected to hit \$31.5 billion in 2018, up 275 percent from \$8.4 billion in 2015.⁴⁴

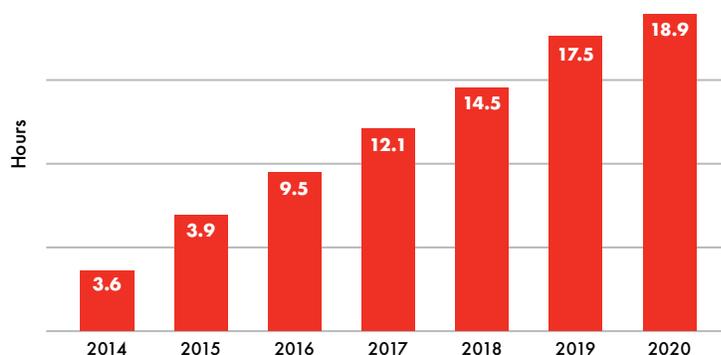
The growing popularity of OTT is bringing interactivity, data, and targeting long associated with digital media to the television ecosystem. It's also opening up a new level of choice in content and pricing models for consumers who can choose from an endless array of options.

U.S. connected TV users and households increased by over 20 percent in 2016 and are on track to continue growing through 2020. The trend is led primarily by the popularity of smart TVs and streaming devices from Roku, Amazon, Google and Apple. OTT video viewership is also increasing, particularly on services such as YouTube, Netflix, Amazon and Hulu⁴⁵.

Over-the-top (OTT) device penetration is quickly expanding. Indeed, based on the IAB 2017 Changing TV Experience [report](#), the "big screen" video experience is changing rapidly as 56% of consumers TV's are now IP-connected and as 54% of those viewers are now spending more time watching non-linear content, including digital video.

OTT TV programming will grab an increasing amount of internet users' television time in the coming years as viewers turn to streaming devices for more long-form, live content⁴⁶.

➤ Average Weekly Time Spent Watching OTT TV Among U.S. Internet Users, 2014– 2020 (hours)

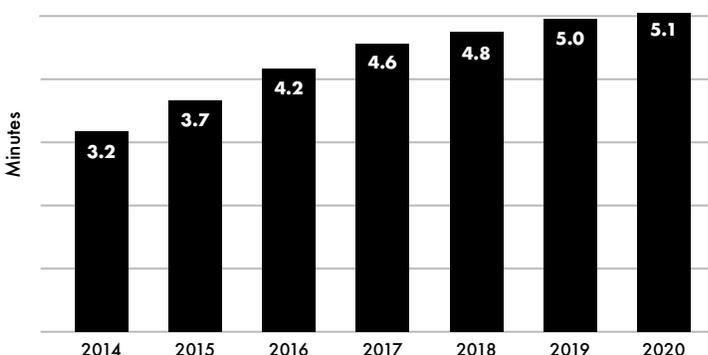


Source: TDG the Future of OTT TV Advertising, April 9, 2015

Using Q4 2014 research, [The Diffusion Group \(TDG\)](#) estimated that the average weekly time U.S. internet users spent watching OTT TV would rise 425 percent between 2014 and 2020, from 3.6 hours to 18.9 hours.

As time spent on OTT grows, ads served during programs will get longer as well. [TDG research](#) forecast that the average ad length per 30-minute U.S. OTT TV episode would increase nearly 60 percent between 2014 and 2020, from 3.2 minutes to 5.1 minutes.

➤ Average Ad Block Length per US Over-the-Top(OTT) TV Episode,* 2014-2020 (minutes)



Source: TDG the Future of OTT TV Advertising, April 9, 2015

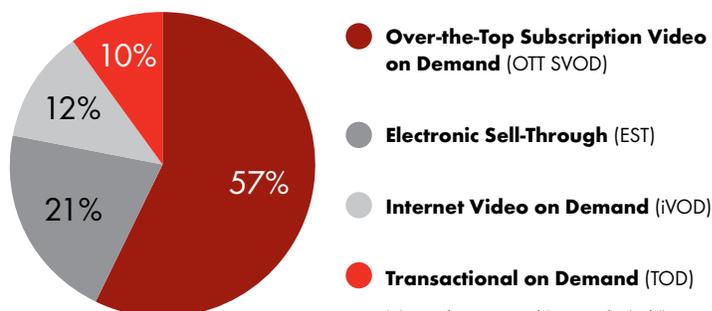
⁴⁴ [eMarketer More OTT Time Means More Ad Time](#)

⁴⁵ [eMarketer's Connected TV and Over-the-Top Video: The Living Room's Place in the U.S. Digital Video Ecosystem](#) report.

⁴⁶ [Frank N. Magid Associates](#) study.

OTT has undoubtedly driven the growth and future of broadcast content. In fact, the majority of on-demand content revenue comes from OTT subscription services such as Netflix, Amazon Prime and Hulu Plus.⁴⁷

2015 Share of Marketplace Revenue for On Demand Content*



*Please refer to page 2 of this report for the full definitions of these On Demand industry terms.

Source: comScore 2016 U.S. Cross Platform Future in Focus report

According to [comScore 2016 U.S. Cross Platform Future in Focus report](#) OTT SVOD accounted for 57 percent of the 2015 share of marketplace revenue for on-demand content.

The conversation around shifts toward OTT viewing on Netflix, Amazon and the like has traditionally been coupled with discussion of cord-cutting. However, more broadcast and cable networks—such as HBO, CBS, Disney, and others—are

making their content available over-the-top via apps, creating a renewed opportunity to reach non-pay TV audiences who couldn't otherwise be reached.

8.4 The OTT Ecosystem

For marketers, OTT / Connected TV advertising brings with it the opportunity to create dynamic, interactive, even “shoppable” ad experiences that can drive increased engagement and brand recall, bringing consumers further down the purchase funnel.

OTT Advertising Options include:

- TV length video ads (:15s, :30s, :60s, etc.)
- Interactive options that can increase recall and engagement with the ad
- Addressable / precision targeting at the household level
- Dynamic ad insertion
- Programmatic ad buying
- Custom sponsorships
- Branded content

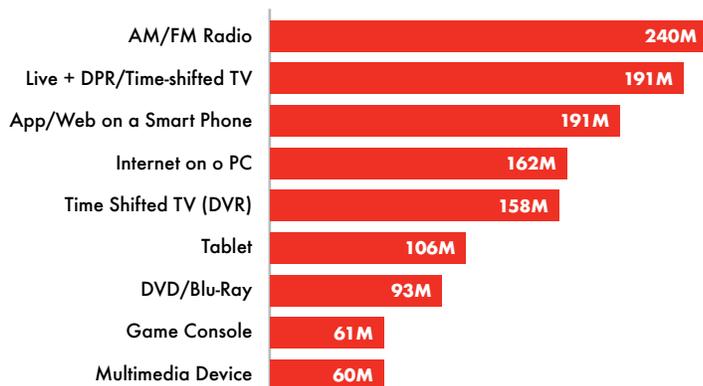
Benefits of OTT Video Ads

- Full-screen TV experience on a large living-room device with co-viewing
- Benefits of digital including: advanced targeting, dynamic ad insertion, enhanced survey, and audience analysis capabilities
- IAB standards and digital measurement
- Reach cord-cutters/shavers/nevers
- Reduced risk of fraud because OTT, as of today, is typically a closed, controlled ecosystem
- OTT video ads tend to be 100% in-view because there is no player to minimize in this full-screen experience. However, there is currently no established viewability standard specifically for OTT
- Support for third-party ad serving and measurement

⁴⁷ [comScore 2016 U.S. Cross Platform Future in Focus report.](#)

8.4.1 Streaming TV / Connected TV Devices

Number of U.S. Adult Users Per Month



Source: Nielsen Total Audience Report, Q1 2016

smartphones alone has increased 63 and 60 percent, respectively, among adults between 2015 and 2016: tablet usage is up 12 minutes, and smartphone usage increased 37 minutes.⁴⁸ With more consumer choices, it's becoming increasingly pertinent for marketers and advertisers to understand audience behavior via these devices and services.

According to [comScore Connected Home report, U.S. December 2016](#), a variety of connected devices are now being used to watch OTT content, with streaming boxes and sticks being the most popular.

8.4.2 Streaming Services

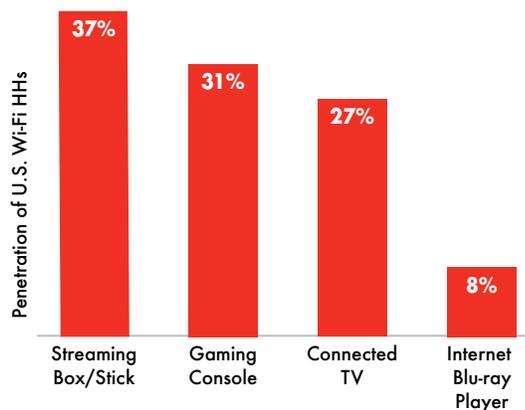
Content providers offer streaming services based on their business models and type of service.

OTT aggregators: Offer a range of content from multiple providers delivered over the internet (i.e. Netflix/Hulu/Amazon prime video) without the involvement of a multi-system operator (MSO, i.e. Cox Communications/Comcast/Charter Communications). You can access this type of content without having a cable subscription.

From Connected TV's (CTV), smartphones, computers, tablets, to internet streaming players, DVRs, DVDs, gaming consoles, etc., consumers have streaming options at their fingertips, and are spending more time on these newer technologies.

Although the time spent using traditional devices like television has remained more or less constant or declined only slightly, consumer attention continues to expand. Daily usage of tablets and

Connected Home Devices: Penetration of U.S. Wi-Fi Households



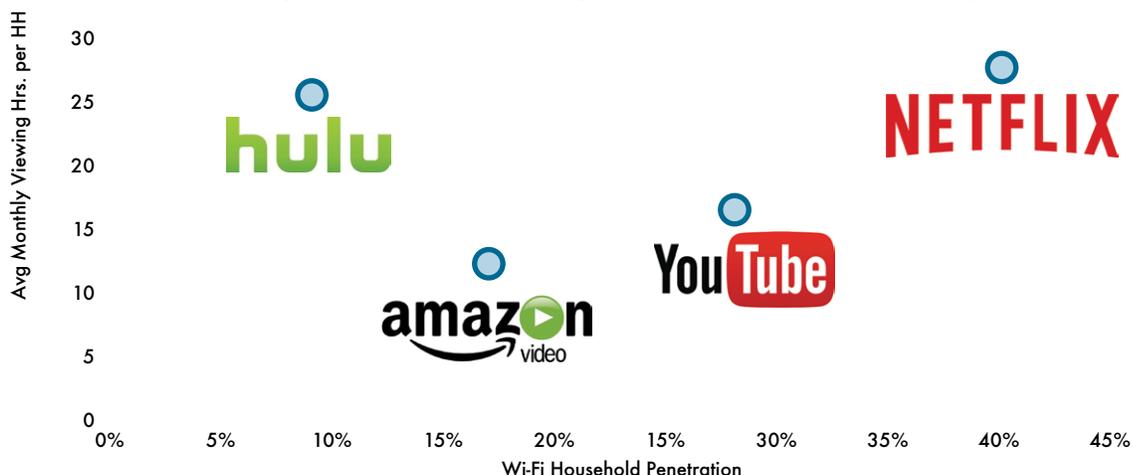
Source: comScore Connected Home report, U.S. December 2016



According to [comScore's OTT Intelligence Report December 2016](#), Netflix leads the major over-the-top streaming services in both household penetration and viewing engagement.

⁴⁸ [Nielsen's first-quarter 2016 Total Audience Report](#).

➤ **Netflix Leads the Major Over-the-Top Streaming Services in Both Household Penetration and Viewing Engagement**
 Selected Over-the-Top (OTT) Streaming Services by Wi-Fi Household Penetration & Engagement



Source: comScore OTT Intelligence, U.S., December 2016

OTT standalone services: Offers content delivered from one provider directly to the consumer over the internet without the involvement of an MSO (i.e. HBO NOW).



HBO NOW[®] is only accessible in the U.S. and certain U.S. territories where a high-speed broadband connection is available. Minimum 3G connection is required for viewing on mobile devices. HBO NOW[®] is available through participating partners.

According to findings presented in [Nielsen's first-quarter 2016 Total Audience Report](#), SVOD services have reached a milestone. For the first time, penetration of these services in the U.S. has caught up to DVR penetration. In fact, half of all homes in the U.S. have access to SVOD services, such as Netflix or Hulu—matching U.S. DVR penetration.

To find out more about the heaviest users by device type, visit this [article](#). Nielsen also published their [Global Video-on-Demand Survey](#) where they polled 30,000 online respondents in 61 countries to gauge worldwide sentiment about VOD viewing and advertising methods. They examined who is watching VOD, how they are watching and why. They also explored how online-service providers are affecting traditional TV landscape.

TV Everywhere (TVE). With TV Everywhere, content can be accessed through any internet-enabled device or mobile app with users signing in to TVE service using their subscription log in details (i.e. Watch ESPN, Fox Now). TVE benefits for consumers and operations include:

- More TV content accessed easily across more platforms
- MVPD subscribers can watch programming from their favorite TV networks on multiple screens for no additional charge
- Subscribers can access this content using any broadband connection
- The sign-in process provides a basis for data-driven ad targeting capabilities
- Mobile is the primary source to access content, but connected TV apps are gaining popularity⁴⁹
- TVE provides value as it preserves retention, increases consumer loyalty, provides flexibility as the viewing experience is personalized

⁴⁹ Adobe U.S. Digital Video Benchmark 2Q15; Adobe Primetime; TV connected devices=Apple TV, Roku, gaming console, Amazon Fire TV, Smart TV, other

Examples of TV everywhere apps include the following:



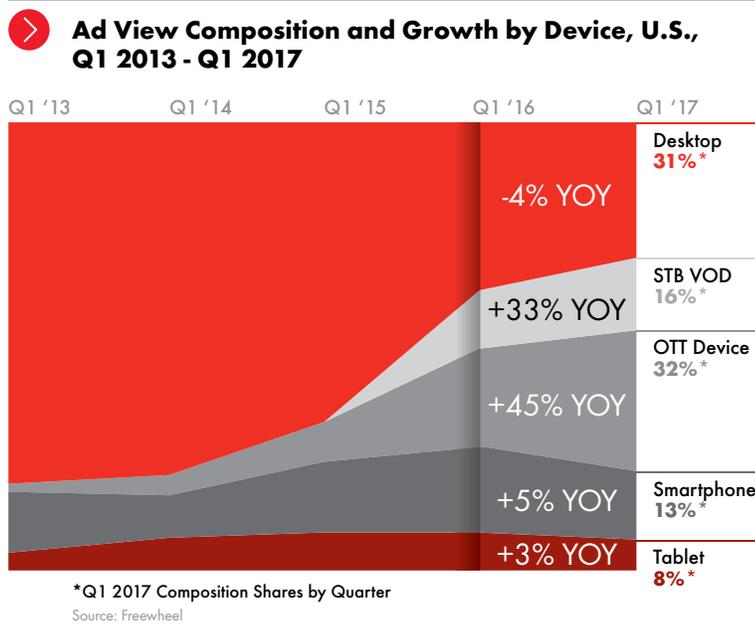
While On Demand viewing is growing with more content being made available behind the paywall, live events have proven to be a significant driver of TVE usage. The Rio Olympics in August 2016 and the 2014 World Cup were great examples of how TVE gave more control to the viewer, enabling them to curate their own experiences on the screen of their choice. Authentication levels through TVE have often seen steep changes of adoption with large sporting events as consumers familiarize themselves with the technology (and their login information) in order to access essential viewing.

Time will tell whether this is TVE's peak or whether authenticated viewing will continue to grow, but acceptance should become even greater as "sign on" authentication is simplified. While authentication levels have increased throughout the years, awareness is still an issue.

VSP or vMVPD: Virtual Multichannel Video Programming Distributor is a new form of digital-only cable alternative which provides access to on-demand and live content delivered over the internet without the traditional network infrastructure (i.e. Sling TV, Direct TV Now, Sony PlayStation Vue).

8.5 OTT Challenges and Opportunities

Despite the rapid growth of OTT audiences—estimated by [eMarketer](#) at 187MM this year and growing to 200MM by 2019—advertisers are still challenged with issues of scale (relative to the size of traditional linear TV audiences) and a lack of uniform targeting, measurement, and attribution.



Despite these challenges, ad share for OTT continues to grow. According to FreeWheel's most recent Video Monetization report, the majority of growth in streaming video ad is coming from OTT which bodes well for a future where the differences between TV and Video eventually fall away.

8.6 Ad Targeting in OTT

Because OTT content is delivered over the Internet, brands and local advertisers alike can serve ads and connect with consumers at a household level, in a full-screen TV experience while benefiting from the targeting precision of digital video. In its first iteration, brands can buy directly from OTT content providers, using viewing information and the program environment as a proxy for product interest, with the campaigns executed programmatically through automated channels/mediums/tools.

In its next iteration, ad targeting can continue to be informed by viewing information and, via device matching, by the research that indicates what viewers do online in terms of purchasing goods and services. Audiences can be built on open and private exchanges using targeting tactics currently in use for digital video. Brands will extract maximum value from their ad campaigns when they are tailored to the expressed intent of viewers, and viewers will benefit from seeing advertising that matches their most current commercial interests.

Smart TVs enabling smarter advertising

You have probably used [Shazam](#) to look up a song while you were at the bar or gym, the technology behind Shazam is called Automatic Content Recognition (ACR) and it's the technology that captures and identifies content across internet-connected devices, such as Smart TVs, phones, laptops, and tablets.



Using ACR, smart TV manufacturers are able to create personalized viewing experiences by providing viewers with content recommendations based on the current program they are watching, receive episode bios, etc.

Advertisers can benefit by tapping the wealth of viewership data that outlines exactly which ad, channel, and program a viewer is watching, when, and for how long. Targeting to OTT devices is done at the household level (as opposed to individual level, which is more common in digital advertising). Two methods are available to link data to the viewing household:

1. **High Index Modeling:** Using viewership data to purchase air time during programs with the highest likelihood to be viewed by the desired audience.
2. **Cross Device Graph:** Using data collected by other devices in the household to target viewers based on a shared identifier. Similar to digital advertising, this involves purchasing ads on an impression by impressions basis when the TV viewer has been identified as belonging to the stated audience.

These household level connections can be made via three methods: probabilistic, deterministic or based on modelling.

1. **Probabilistic methods** link devices based on assigning a probability that two devices belong to the same household, which is achieved by analyzing thousands of different anonymous data points such as device type, location data, and time of day. While this method is commonly used, it is important to understand the accuracy of the data being used for every link between devices. Most probabilistic methods have been benchmarked vs. a set of actual users and can provide an accuracy rating. Advanced targeting platforms can choose the level of accuracy and show tradeoffs between accuracy and scale.
2. **Deterministic methods** utilize data collected when a consumer logs in to the same application or website across devices or provides some sort of personally identifiable information (PII) like an email address, to link individual logins to digital identifiers like cookies or device IDs. Deterministic data is preferred when available for highest accuracy, but the scale is potentially limiting because not all data collected digitally has deterministic identifiers associated with it.
3. **Modelling methods** are based on sample data sets, similar to the process described above, and is the way Nielsen has been calculating GRPs for the longest time.

Most companies/vendors use a combination of all of these methods as they need more than six months' worth of census-level viewing data from a smart TV provider to make that data set valuable.

One aspect that needs to be considered while collecting data is privacy. If a vendor or manufacturers will be collecting data from its users, it needs to inform them of such with an opt-in option.

8.7 Viewability for OTT / Connected TV

Viewability is still a new and vaguely defined concept in the OTT / Connected TV space. Given the reality that ads on OTT/Connected TV screens are inherently visible, in focus and without the ability to skip, many are questioning whether measuring viewability in Connected TVs makes sense.

Lack of VPAID support and limited technical capabilities to execute 3rd party verification logic code on TV devices is further bringing up into question how much advertisers should trust any viewability measurement taken in such context.

Yet, despite these concerns there has been a steady interest from both sides of the market around measuring and reporting viewability for video ads across platforms (including CTV) in order to check the box for all inventory types. Driven by the need to find some measurement common grounds for cross-channel video campaigns, viewability is seen as the first and most attainable video metric for such campaigns at this time. It is also the first step in helping advertisers with cross-channel media planning, buying, and understanding ROIs.

There is currently no official definition of CTV viewability and as a result, the industry has unofficially adopted the existing MRC definition for video ads on the web.

At this time CTV technology offers limited support for industry-wide video ad tech standards. Currently, most CTV video players offer limited support for VAST, and no VPAID support at all. As a result, verification vendors rely on a combination of VAST-pixel event tracking and assume 100%-pixel visibility for ads playing on a TV screen. The increasing adoption of server-side ad insertion (SSAI) by major media companies is further complicating the task of taking authentic client-side viewability measurement. The recently introduced [IAB VAST 4](#) specifications aim at addressing this new reality of cross-channel video distribution, and provide new ways to reliably measure viewability, including CTV.

8.8 Buying and Selling / Transactional Models

The amount of TV advertising inventory that is available is limited—as is premium video inventory—and buyers' demand outstrips supply; on the other hand, the volume of display advertising inventory is unlimited. For this reason, most of TV ad inventory is being bought by agencies and brands “**upfront**,” meaning at the beginning of a new TV season, ahead of the time when campaigns are actually going to use that inventory. About 70 percent of inventory is sold that way, and only about 30 percent is sold as “**scatter**” during a season (i.e., on a more short-term basis). But even scatter is being sold with significant lead time, sometimes months, because it still needs to be “**reserved**” or “**guaranteed**,” just as is the case for upfront purchases.

All TV advertising sales are future contracts: Buyers always pay media owners for inventory that the latter delivers later.

8.8.1 Linear Addressable TV

TV advertising today focuses around trying to reach your target demographic based on TV panel data of a few thousand households. The ad currency for that is the [gross rating point](#) (GRP) – a maximum GRP at a given budget being the aim for a TV campaign. TV planners identify the shows with the highest GRP for a set target demographic based on historical viewing data and then book the shows with the best price/cost ratio, maximizing the GRP for the planned campaign.

8.8.2 GRP/On-Target Delivery

Nielsen’s Gross Rating Points (GRPs) methodology has been around since the 1950s and is considered the currency for legacy/linear TV.



The first federally regulated television ad was aired on July 1st, 1941 on then WNBT (now WNBC), during a baseball game between the Brooklyn Dodgers and Philadelphia Phillies. The 10-second spot for [Bulova Watches](#) showed a static image and reportedly cost \$9—a small price to pay for such a historic event.

The 1950s saw the dawn of sponsored programming, regularly scheduled advertisements, and viewership ratings. [Arthur Nielsen](#)—who had helped pioneer radio market analysis twenty years earlier—developed a ratings system by which a sample audience’s viewership could be measured accurately. Nielsen’s Gross Rating Points (GRPs) represents a combination of reach and frequency, measured according to the households reached by an advertisement versus the total targeted population.



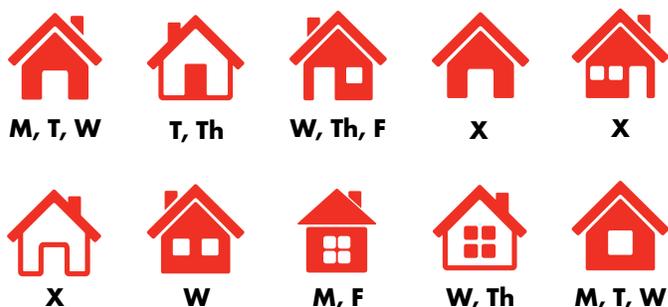
The GRP methodology has been the gold standard in TV measurement ever since. GRP values continue to be used by media buyers to compare the advertising strength of various media vehicles.

In review, the Nielsen TV measurement landscape in the U.S. is as follows:

- Nielsen measures and reports national and local TV Audiences. There are 210 local TV markets, known as Designated Market Areas (DMA).
- National audiences are measured using people meters (NPM = National People Meter Sample). A sample of 20,000 homes across the USA is recruited and all TV sets in these homes are electronically monitored. Individuals’ viewing is measured through people’s registration using a specially designed handset.

Recommended resources: [“Nielsen Begins Modeling National Ratings, Will Remain Accredited Until ‘Reevaluated’ In Early 2016” – MediaPost](#); [“Nielsen’s Panel Expansion and National Ratings Modeling: What’s Happening?” – clypd](#).

How to Calculate GRP



Combined Ratings Per Day	
Monday	30
Tuesday	30
Wednesday	50
Thursday	30
Friday	20
<hr/>	
160 GRPs	TOTAL SUM

REACH $\frac{\text{\# of households reached}}{\text{total \# of households}} \times 10 = 70$
FREQUENCY $\frac{\text{GRP}}{\text{Reach}} = \frac{160}{70} = 2.3$

Source: IAB

- In this example shown above, each household shows which days the set was in use during the time a commercial or spot aired. Since each home represents 10 percent of the world (10 homes), each represents a 10 rating every time the spot airs. By adding these ratings, we arrive at the total of 160 Gross Rating Points.
- In this example, reach is the number of different or unduplicated households or persons that are exposed to a television program or commercial at least once during the average week for a reported time period. During the course of the schedule, seven different households were exposed to the commercial at least once. Since each home represents 10 percent of the universe, this makes the reach of 70 percent.
- Frequency represents the average number of times a household or a person viewed a given television program, station or commercial during a specific time period. In our example, the Gross Rating Points achieved (160) is divided by the percent of homes reach (70) to determine the frequency of 2.285.
- Another way of calculating the GRP is simply to multiply the frequency times the reach. For example, an advertisement that is aired/served 5 times reaching 50% of the target audience each time it is aired would have a GRP of 250 (5 × 50%).

REACH × FREQUENCY = GRP

8.8.3 Digital GRP

A Digital GRP is a unit of measurement that represents the percentage of online viewers reached within a total targeted audience population (e.g. females 18-34 in the San Francisco DMA) multiplied by the number of times they were reached. The digital GRP has the potential to serve as an organizing principle combining traditional with digital into the same playing field.

Formula used to calculate the Digital GRP:

Formula Used to Calculate The Digital GRP

$$\text{DIGITAL GRP} = \frac{\text{IN TARGET AUDIENCE REACHED}}{\text{TOTAL TARGET POPULATION}} \times \text{FREQUENCY OF AD EXPOSURE} \times 100$$

Source: IAB

Digital GRPs would provide a way for advertisers to evaluate their digital media and assess which audiences they are reaching using traditional TV metrics (GRPs & Target Rating Points, TRPs). It would also potentially allow advertisers to rollup ratings across TV and online, allowing for better planning and means for comparison.

The most widely-used digital ratings verification systems for digital are Nielsen's Digital Ad Ratings (DAR) and ComScore Validated Campaign Essentials (VCE).

However, the Digital GRP isn't perfect, as outlined in the IAB [Video Landscape Report](#). There are still challenges in measuring TV and video with a common metric.

[MRC](#) is currently engaged in iterating through the final phases of [3MS](#) including drafting digital audience-based measurement and cross-platform measurement standards. Within these standards, digital GRPs intended for cross-media comparisons or combinations will likely include some form of duration weighting to account for differential exposure and to normalize for creatives of varying lengths.



8.9 Landscape: Linear TV Inventory Sources

The most-watched⁵⁰ **broadcast networks** in the U.S. CBS, NBC, ABC, FOX, Univision, The CW, and Telemundo. Their inventory is unique (it is broadcast to viewers, which makes it attractive to advertisers) and at the same time limited in volume (anywhere from 24 minutes to around 160 minutes of national inventory in a 24-hour period). While some networks only have two hours in primetime, others have three hours in primetime as well as daytime, late night and overnight programming. Demand will probably always far outstrip supply.

The most-watched⁵¹ **national cable networks** are Fox News Channel, ESPN, USA Network, TBS, HGTV, TNT, Discovery Channel, History, Disney Channel, and CNN. Cable networks have a lot of inventory at their disposal (around 360 minutes of national inventory in a 24-hour period). Most of these embrace automation and several of them announced during the upfronts that they would make additional audience data available to buyers through partnerships with companies such as Rentrak.

TV stations broadcast to viewers at a local level, making it less appealing to advertisers. Their inventory isn't as limited (around 240 to 300 minutes of local inventory in a 24-hour period) but the ecosystem is quite complex. Automation would make this type of inventory more valuable.

Diginets (also known as digital broadcast, digital subchannel, multicast or dot-two networks) are broadcast networks that are carried on digital subchannels at TV stations (the .2, .3, .4, etc. channels).



The top diginets are MeTV, Antenna TV, Laff TV, Escape, This TV, Bounce TV, Create TV, geTV, Comet, and World.⁵² With the transition from analog to digital TV, stations were able to add multiple digital subchannels in addition to their primary channel and that created an opportunity for diginets. Diginets split the ad inventory with the TV stations (around 144 to 168 minutes of national inventory in a 24-hour period).

The fundamentals of the multicasting business are to convert low-cost, but well-known movies and TV shows, into modest, but steady, revenue streams and profits for the diginets and their affiliates. An example of this is what Antenna TV, Tribune Broadcasting did with antenna TV Classics, specializing in the older-skewing shows, while the original Antenna TV would then be free to recalibrate its lineup with shows to attract younger viewers.

8.10 Multichannel Video Programming Distributors (MVPDs)

Multichannel Video Programming Distributors (MVPDs) are cable, satellite and telco providers such as AT&T DIRECTV, DISH, AT&T U-verse, Charter Spectrum, Comcast Xfinity, FiOS, and Verizon. These distributors insert ads for **two minutes out of every hour** of programming.

For MVPDs, the automation that is characteristic of advanced TV is a dream come true:

- They have inventory available on lower-tier networks and automation/data generally helps sales. Today, sales are hampered by the fact that it is so difficult to buy local advertising because between MVPDs and local broadcasters, there are so many different players and programming schedules.
- MVPD inventory has traditionally been considered local inventory, as it has largely only been sold to local advertisers. With automation, it can now be aggregated so that national advertisers can buy it, allowing MVPDs to directly compete with the big networks.

⁵⁰ Based on 2016 total viewers Broadcast - Source: Nielsen. Prime time total viewers, Live+7; Broadcast data: 12/28/15-12/4/16

⁵¹ Based on 2016 total viewers Cable - Source: Nielsen; Live+SD numbers from 12/28/2015-12/18/2016

⁵² Based on 2016 TV household coverage. Networks supplied coverage percentages, except for Create TV, which came from [Across Platforms consultancy](#).

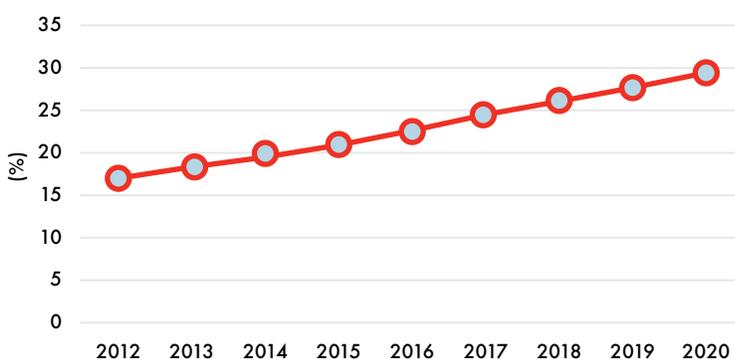
- MVPDs also own a lot of data on their customers. MVPD distribution is based on set-top boxes, which means they can—at least potentially, if they don't already—target advertising at the household level.

Nationally syndicated shows are distributed to TV stations and regional cable networks and have anywhere from four to eight minutes of national ad inventory per hour.

8.11 Cord Cutters, Cord Nevers, and Broadband-Only Homes

The way consumers in the United States are viewing video content has begun to change in profound ways. They are branching out from traditional TV to incorporate digital channels into their viewing habits, and within digital, they are rapidly embracing mobile video.

Share of U.S. Households Without Cable, Satellite, or Telco TV Subscription, 2012-2020



Source: IDC, 2017

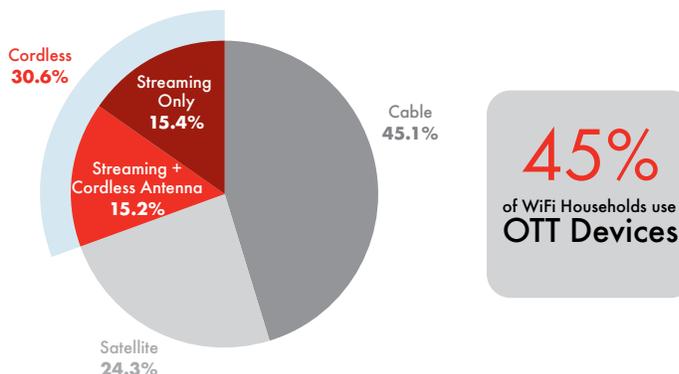
Data confirms this viewing shift. IDC's latest pay TV subscriber estimates show that in 2016, 23% of all households in the United States did not subscribe to pay TV (cable, satellite, telco TV). IDC expects that number to climb to 29% by 2020⁵³.

These numbers are echoed by [comScore's Total Home Custom Reporting, U.S., December 2016](#) nearly one-third of the OTT audience is cordless and doesn't subscribe to pay TV, with half of those being streaming-only households.

Studies by IDC also reflect that cord cutting is about cost, not content. The majority of the cord cutters are either young, or low income and they do so to save money. The above referenced study indicated

that when they do cut the cord, the vast majority (78 percent) of what they stream is TV content licensed from networks. People with both MVPD and OTT subscriptions watch more TV than non-streamers. The study also revealed that streaming is a complement, not a replacement. Consumers want to access the best content is the cheapest and most efficient way. So, it's not about the content, but about the format.

Over-the-Top (OTT) Households by TV Service Type

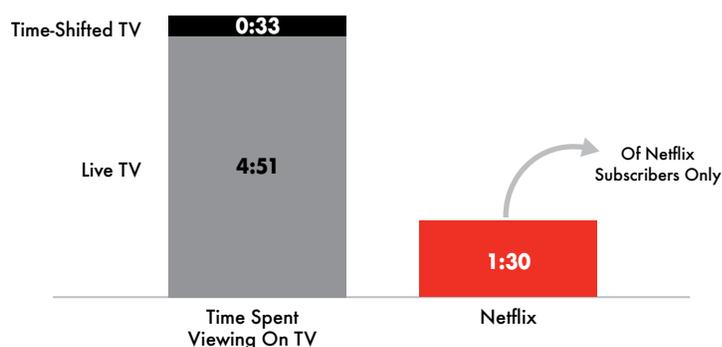


Source: IAB Internet Advertising Revenue Report, Full Year 2016

45%
of WiFi Households use
OTT Devices

⁵³ [IDC report](#)

Time Spent Per day A18+ : Total Day



Source: Nielsen analysis of time spent, total day, Jan '15; TV=English cable + broadcast; Netflix = self-reported

Netflix is generally a complement to multi-channel subscriptions as evidenced by the fraction of time adults spend with the service compared to TV.

In the end, viewers follow the content.

[TiVo's Q4 2016 Video Trends Report](#) shows the results of a survey conducted since 2012 to 3K people in the U.S. and Canada. The goal of this report was to understand why

respondents cut pay TV service, which can provide valuable feedback in many areas, including product developments, customer service improvements, and marketing efforts focused on subscriber acquisition. They also delve into the consumer preference for a la carte packages and what the ideal price for the top 20 channels should be.

8.12 Types of Advanced TV

As defined by IAB, [Advanced TV](#) is an umbrella term that refers to any television content that has evolved beyond traditional, linear television delivery models and includes Addressable TV, Linear Addressable, VOD Addressable, and the aforementioned OTT / Connected TV universe.

8.12.1 Advanced Linear Addressable TV Types

Audience-Targeted Linear

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.

Household Addressable (Live, VOD)

Addressability is the ability to show a specific ad only to certain specific households (i.e. you see a different ad than your neighbor does). While it is true that the new advanced audience data are more granular than Nielsen ratings, they do not allow targeting single households, but only audiences with certain characteristics (audience buying), i.e. sets of households within certain characteristics and in certain geographical areas.

CURRENT STATUS OF LINEAR ADDRESSABLE TV	
CABLEVISION	2.8MM Addressable TV HHs, :30s/60s, 56 networks
DIRECTV	12MM Addressable TV HHs, :30s/60s, launching :15s shortly, data aggregated from over 5MM boxes, over 50 networks
DISH	8MM Addressable TV HHs, :30s/60s, over 78 networks
COMCAST	19MM Addressable VOD HHs, Estimated 4MM Addressable HHs with 10MM by End of 2015
Time Warner Cable	Video On Demand, DAI

Source: 4A's data-driven video report

However, some households are already directly addressable. Technologically, for traditional linear TV, where the signal is broadcast via cable or satellite to many viewers, these set top boxes (STB) come with a hard drive that caches the ads locally, and the STBs then insert the ads into the video stream. This approach combines the broadcast environment of linear TV with the unicast requirements of addressable advertising.

Addressable TV can target [about 25-30% of U.S. households](#) per the 4As data driven video report.

Interactive TV—defined within the Advanced TV umbrella—is catch-all term for adding a viewer engagement piece to television, including both interactive content and advertising, delivered through the first and second screen.

8.12.2 Linear Addressable TV Data & Targeting

The ability to reach specific audiences today through linear, addressable TV is still fairly rudimentary. Typically, TV ad slots are bought based on Nielsen Ratings data, which for each TV program only provides basic demographic audience information: age, sex, race, economic class, and region.

Addressable TV advertising, delivered on a home by home basis, leverages advanced audience data—provided via satellite and cable boxes—on top of Nielsen data to enable a much more granular view of TV audiences. Instead of buying rough-hewn audiences, advertisers can now target more specific subsets, for instance, households with college-educated women with more than two kids and an annual household income of more than \$150,000 who are also in the market for a new car.

There is also syndicated, third- and first-party data that the new Advanced TV uses such as panel-based set-top box (STB) data from Rentrak, Kantar, and TiVo Research and Analytics (TRA), data from third-party data management platforms (DMPs), and even census data.

Two more sources are particularly valuable: data that media owners have on their audiences, and data that advertisers have on their own customers. Attribution companies provide performance data, i.e. insights into whether viewers who saw a specific commercial actually purchased something after the fact. These data can be used to optimize ongoing campaigns or plan the next one.

Advanced Linear TV Planning and Targeting Strategies

There's a lot of talk about audience-based buying, selling, and targeting. Advertisers are looking for the right audiences, and audiences are considerably more complex than merely accounting for demographics and age. Audiences are comprised of people with specific interests and passions, behaviors and preferences. To target these more specific attributes, enhanced audience data such as MRI Fusion data, Nielsen Catalina data, are used as well as other data types (including client first-party CRM data).

While there's no perfect dataset that can be used to identify and target audiences, everyone wants to move beyond age and gender in media buying. The missing piece becomes: can you activate the advanced datasets, build a campaign, and have a financial guarantee around them between the buyer and the seller? The top challenge defining advanced targeting is that the buyer has their own view about the ideal target.

Index-Based Targeting

The traditional approach of audience buying has limitations as it relies heavily on Nielsen's TV panel made up of a couple of thousand households informed in part by antiquated technology, such as physical TV viewing diaries.

New set-top boxes allow to capture the viewing habits of millions of households in granular detail. Combining this massive set of viewer data with other available data sources allows to build detailed viewer profiles at a very granular level, going way beyond the traditional gender & age demographics. Household income, family status, hobbies, food preferences, etc. can be used to better define and reach the desired target audience. Instead of ranking the TV program based on the gross rating point, the new index-based buying approach ranks the TV program based on the chosen targeting metrics for each individual campaign. So while a show might have a low "traditional" rating, it might have a high index value and therefore be bought based on the new targeting metric. One caveat remains: If the network agrees to a guaranteed index-based audience, it will require both advertisers and networks to agree on a standard for the used targeting data.

Reach-Optimized Targeting

This is a type of targeting that takes into account the relationship between TV, general internet use and online video usage, so you can optimize your cross-media ad spend. To do this, you must deeply understand your total unduplicated audience along with the reach and frequency of that audience, across platforms. For an example of a reach optimized campaign, visit the [Nielsen Data Fusion report](#).

Cross-Device Targeting

Integrated media campaigns are becoming increasingly more important components of advertising strategies, making it essential to plan cross platform campaigns that deliver on your communication planning goals and more effectively reach your target consumers whether they are watching TV, streaming online video, or surfing the internet.

The rise of the "always on" culture has led to almost all viewers watching TV and using their smartphone or tablet as a second screen in parallel. This change in viewing habits results in many viewers engaging with TV ads immediately following the airing, blurring the traditional boundaries between brand and direct-response TV advertising. More and more TV advertisers are starting to measure the impact of their TV advertising on their online channels. These impact metrics can be used to rank the TV program based on people who are highly interested and most likely to engage.

DEEP DIVE INTO THE NEW TV

DEEP
DIVE**8.13 Dynamic Ad Insertion (DAI)**

Dynamic Ad Insertion (DAI) enables advertising sales to present relevant, demographically targeted ads within on-demand content over existing cable infrastructure, expanding advanced advertising opportunities into non-linear viewing. DAI is the financial engine of free VOD.

Previously, VOD content might have included ads baked into the video stream that were no longer relevant, or out of date. Manually re-editing and adding fresh advertisements was a costly exercise and most VOD revenue to date could only be generated during the standard C3 window.

DAI allows content owners and MVPDs to:

- Dynamically insert ads into live, linear, and VOD content across desktop, mobile devices, gaming consoles, and IP enabled set-top boxes. VOD DAI creates more value for advertisers, content owners, and cable operators
- Refresh targeted advertising campaigns and optimize monetization value for any episode of any show
- Pitch the asset once and sell relevant advertising campaigns against the content throughout its lifetime and expanded viewing window
- Update inventory for holidays, cross-promotion, and other events up to the entire 35 days or more of the content lifecycle
- Create content fully compatible with existing cable infrastructure as new hardware isn't required
- Measure results with Nielsen

The ads, which can be 15, 30 or 60 seconds, can be inserted into the VOD asset in pre-roll, mid-roll and post-roll formats. VOD DAI enables relevant, up-to-date ads, while also providing analytics and measurement tools that gauge the effectiveness of the ads for all of the parties involved in a campaign. The use of DAI technology illustrates its expanding role in enabling advertisers to insert their marketing campaigns into media placements available via archived VOD content.

Rentrak reported 66% of broadcast primetime program viewing occurs after the third day of its original airing. The ability to insert timely ads across all episodes of a TV show represents “the opportunity to generate untold millions in additional advertising dollars for VOD.” Advertisers are using DAI to place ads on linear television as well as VOD content.

Interactive television and VOD dynamic ad insertion are available to help networks enhance services to their advertising clients, thanks to standards and specifications such as SCTE 130 and CableLabs' Stewardship and Fulfillment Interfaces (SaFI).

These standards enable networks to seamlessly interoperate with a variety of cable operator systems and offer advanced television products and services with speed, flexibility, and normalized performance reporting.

SCTE 130 is the foundation for building a unified platform for advanced TV. It is an XML-based tool that works in traditional cable advertising deployments. The SCTE 130 standard is a multi-part specification that defines how an advertising placement server (ad decision system, or ADS) communicates with advertising delivery equipment (ad managers, or ADM). It supports a unified platform for insertion of interactive capabilities in advertising and programming and dynamic ad insertion into linear or on-demand content. It enables the merging of inventory metadata (placement opportunity information service, or POIS), content metadata (Content Integration Suite, CIS) and subscriber information service (SIS), and providing inventory and placement definitions for the accurate execution of iTV and DAI campaigns.

CableLabs' SaFI specifications allow cable companies to provide more innovative types of advanced ads, including interactive advertising and advertising within video-on-demand. SaFI's components help deliver ads in a standardized and consistent manner across a national footprint. The SaFI specs were developed and are maintained by a CableLabs working group composed of MSOs and CableLabs technical leads.

8.14 Cord Cutters, Cord Nevers, and Broadband Only Homes

In broadcast television, **cord-cutting** refers to the pattern of viewers cancelling their subscriptions to multichannel subscription television services available over cable, dropping pay television channels, or reducing the number of hours of subscription TV viewed in response to competition from streaming services like Amazon, Hulu, Netflix, and YouTube. As a market trend, a growing number of "cord cutters" do not pay for subscription television in favor of some combination of broadband internet and IPTV, DVRs, digital terrestrial TV, or free-to-air satellite television.

Cord nevers are young people who grew up accustomed to watching shows online and thus would be less likely to subscribe to pay television services, they are not used to an appointment type experience.



Broadband-only homes: In an effort to entice cord cutters and cord nevers, some MVPDs have begun offering internet-only streaming services. Cablevision began to offer "Cord Cutter" packages that include a free digital access to its Optimum Wi-Fi network, as well as the option to add HBO Now to the service.

8.15 Automation (or Programmatic) vs Addressable for Dummies

Advanced TV: Any television content that has evolved beyond traditional, linear television delivery models. This umbrella term is inclusive of Interactive TV (iTV), Connected TV (CTV), Smart TV, and Linear Addressable & VOD Addressable.

Connected TV (CTV): A television set that is connected to the Internet via OTT devices, Blu-ray players, streaming box or stick, and gaming consoles, or has built-in internet capabilities (i.e., a Smart TV) and is able to access a variety of long-form and short-form web-based content.

Linear Addressable: The addressable ad inserted into live programming. For example, DirecTV, Dish, and Cablevision's inventory is all linear addressable.

VOD Addressable: The addressable ad is inserted into cable programs within the VOD content accessible through a cable provider set top box. For example, Comcast's addressable inventory is VOD addressable.

Video on Demand (VOD): Video content that is controlled, enabled, and consumed whenever a viewer wants after its official release date or original air date and time. VOD content can be found on set top boxes, OTT devices, mobile web, mobile apps, and video streaming services.

Over-the-Top Video (OTT) Content: Video content transported over an internet connection via a connected device (such as a connected TV, Smart TV, etc.) from a video provider to a connected device.