

MULTISCREEN MEASUREMENT & AUDIENCE TRENDS 2021 **ROUNDUP**

June 2021

People still spend more time with TV than they do with digital video, a broad category that spans various devices and types of content—but the gap is shrinking. In 2021, US adults will watch an average of 140 minutes of digital video per day, up from 133 minutes in 2020. eMarketer has curated this Roundup of the latest data and marketing insights on multiscreen measurement and audience trends.

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SPONSOR MESSAGE

There is no shortage of choices for consumers to access live and on-demand news, sports, and entertainment on streaming and traditional TV. Equally notable is the rapid acceleration of marketing investments across ad-supported streaming platforms.

Streaming video offers advertisers the ability to reach young, diverse, and massive audiences, often incremental to other video investments including linear TV. As such, for brands and agencies, it will be key for them to understand reach and frequency across all screens.

Tubi is at the forefront of solving pain points and offers solutions that help advertisers plan, buy, and measure the impact of their video investments at scale.

OVERVIEW

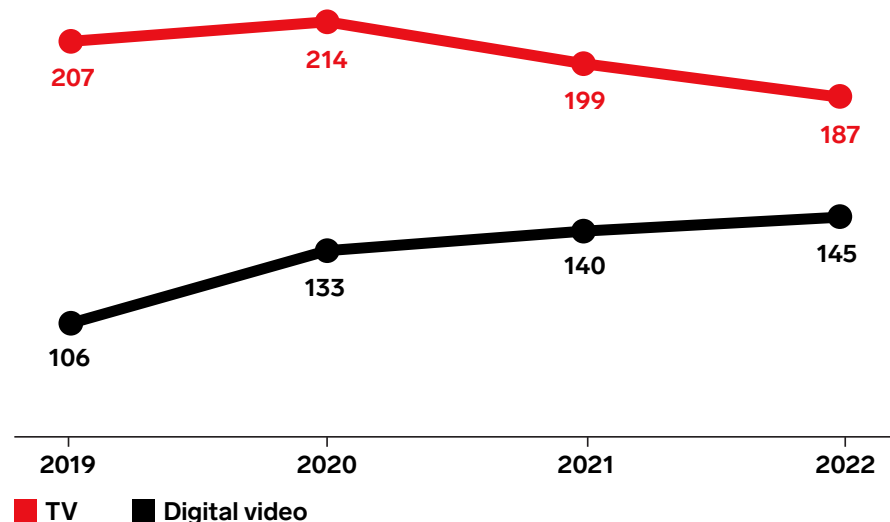
In January, we updated our time spent with media forecasts. After receiving a pandemic-driven viewing bump last year, the amount of time that US adults spend watching linear TV will decrease by 7.0% this year to an average of 199 minutes per day. In 2022, their time spent with TV will decline an additional 5.9%. This year, TV viewing will account for just under one-fourth of their total time spent with media.

The ongoing trend is that viewers are replacing TV with digital video. People still spend more time with TV than they do with digital video, but the gap is shrinking. In 2021, US adults will watch an average of 140 minutes of digital video per day, up from 133 minutes in 2020. By the end of 2022, they will watch digital video for an average of 145 minutes per day.

Digital video is a broad category that spans various devices and types of content. The so-called streaming wars relate to a subcategory of digital video—subscription over-the-top (OTT) video. In 2020, people stuck at home for long periods turned to video streaming services to pass the time, which drove a 33.9% year-over-year (YoY) increase in the amount of time that US adults spent with subscription OTT per day. After last year's heightened level of viewing, time spent with subscription OTT will increase at a slower rate through the end of our forecast period in 2022. This year, subscription OTT viewing will grow by 6.6% YoY to an average of 77 minutes per day. In 2022, time spent with subscription OTT will increase by another 5.6% YoY. Subscription OTT will continue to account for more than half of total time spent with digital video this year and into the next.

Average Time Spent per Day with TV vs. Digital Video by US Adults, 2019-2022

minutes



Note: ages 18+; includes all time spent with each medium, regardless of multitasking; for example, 1 hour of multitasking on desktop/laptop while watching TV is counted as 1 hour for TV and 1 hour for desktop/laptop

Source: eMarketer, Jan 2021

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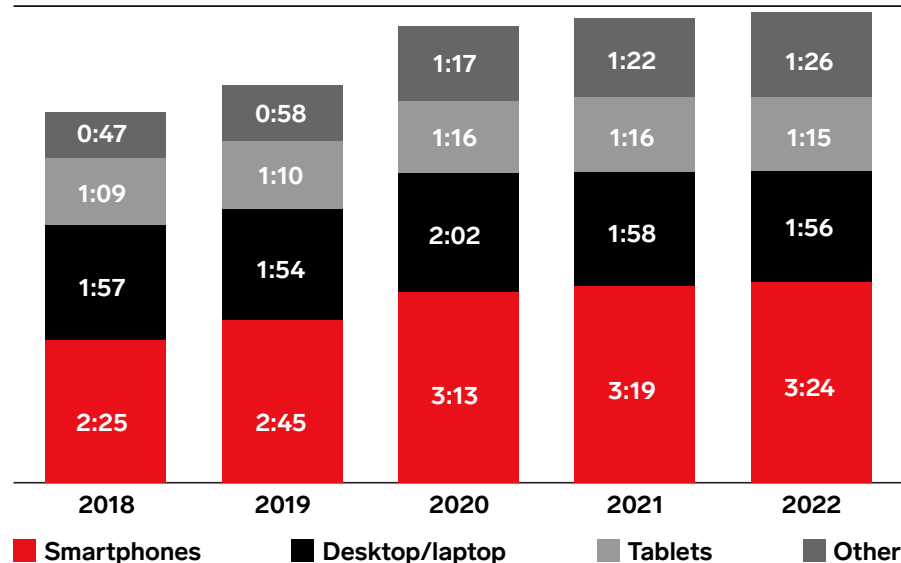
REVENGE OF THE LIVING ROOM TV

Last year was a year when every digital device time spent metric went way up, and there were many highlights to choose from. However, the stand-out prize for 2020 clearly goes to the digital big screen. Call it the revenge of the living room TV, just without the traditional TV cord. In 2020, our “other connected device” category saw a 33.8% increase in time spent, jumping from 58 minutes to 1 hour and 17 minutes (1:17). This category encompasses smart TVs, OTT devices like Roku and Amazon Fire TV, gaming consoles (for gaming as well as video), and the like. These devices are almost always the routes by which internet-based digital content is consumed via a larger stationary screen in the home, and as a result, we use the term connected TV (CTV) as shorthand for the category.

This extraordinary boost in CTV time contrasted the still-robust but more modest increases in time spent with desktops/laptops and mobile. Desktop/laptop internet time increased 7.5% last year—its first gain since 2011—while tablet and smartphone times increased 8.8% and 16.6%, respectively. This year, desktop/laptop time spent will return to its previous downward trend, declining by 3.4%. Tablet time will also give back some gains, but only slightly, falling by 0.5%. Smartphone time spent growth will decelerate but maintain its inexorable upward trend (3.1%). And CTV will once again lead the pack, with a 6.5% annual growth rate, as behaviors and preferences continue to reorient back toward the big screen.

Average Time Spent in the US, by Device, 2018-2022

hrs:mins per day among population



Note: ages 18+; includes all time spent with nonvoice activities on smartphones, regardless of multitasking; includes all nonvoice tablet activities, regardless of multitasking; includes all time spent with internet activities on desktop/laptop computers, regardless of multitasking; includes connected TV devices such as Apple TV, Boxee, connected Blu-ray devices, connected game consoles, Google Chromecast, Roku, smart TVs, and other internet-connected devices; includes all time spent with these devices, regardless of multitasking

Source: eMarketer, Jan 2021

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FREE AD-SUPPORTED STREAMERS SEE VIEWERSHIP GAINS, AD DOLLARS

The pandemic and subsequent recession have created a situation where people have more time to stream video but are sensitive to how much money they can spend on entertainment. This environment is ideal for free ad-supported streamers attempting to gain users. The most popular streamers remain subscription services, but a handful of free services are gaining viewership and expanding their content offerings.

For the first time, we forecast monthly viewers for free streaming services Pluto TV (ViacomCBS), Tubi (Fox Corporation), and The Roku Channel. This year, Pluto TV will have 46.6 million monthly viewers; Tubi will have 44.4 million; and The Roku Channel will have 57.2 million. Back in 2019, none of these services had even 25 million monthly viewers.

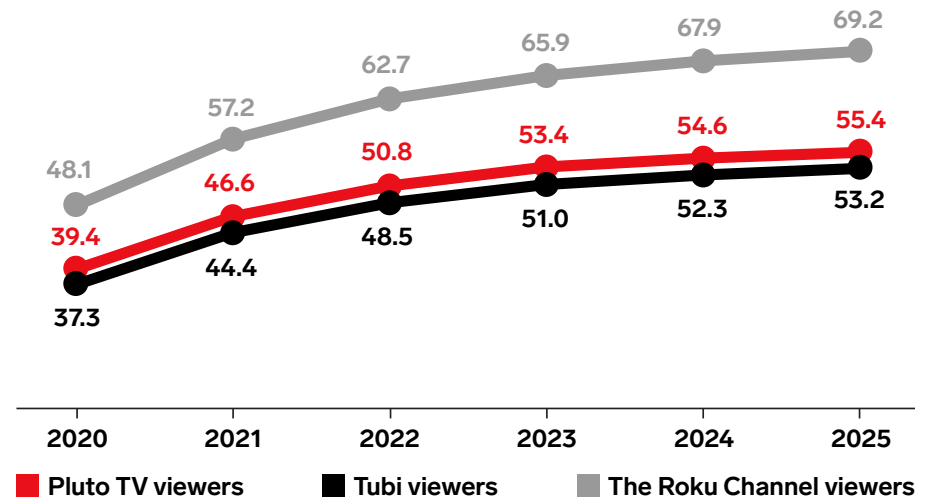
These services will continue to expand their viewership. By the end of 2025, each of these services will have more than 50 million monthly viewers, and The Roku Channel will approach 70 million monthly viewers.

The growth of Pluto TV's ad business is reflective of how advertisers are funneling more money toward streaming video. In a December 2020 survey from Advertiser Perceptions cited by Next TV, 42% of US agency and marketing professionals said they would increase ad spending directed to OTT streaming services over the next 12 months, while just 2% planned to decrease it. Most respondents (56%) said their OTT ad spending would remain about the same as last year.

Nonetheless, more respondents expected to increase their spending on OTT (42%) than on any other advanced TV option, including vMVPDs (36%), data-driven linear TV (28%), and addressable linear TV (25%).

US Ad-Supported OTT Video Service Viewers, by Platform, 2020-2025

millions



Note: individuals of any age who watch via app or website at least once per month

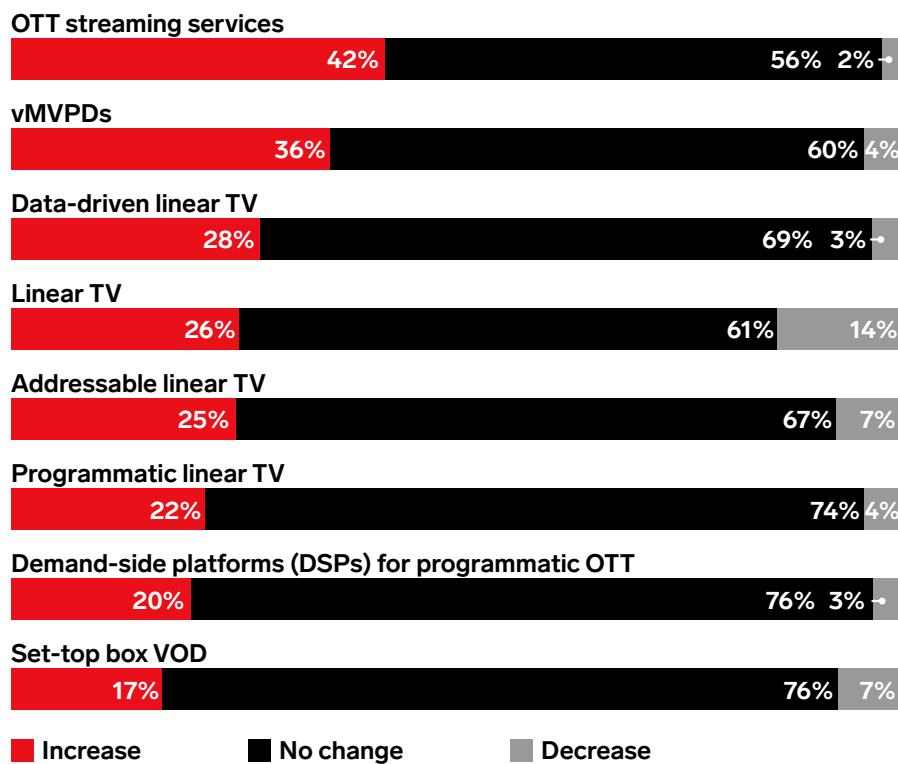
Source: eMarketer, Feb 2021

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Channels That US Agency/Marketing Professionals Will Increase vs. Decrease Their Ad Spending in, Dec 2020

% of respondents



Note: n=284; during the next 12 months; numbers may not add up to 100% due to rounding
Source: Advertiser Perceptions as cited by Next TV, Feb 16, 2021

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Sixty-percent of US agencies and brand marketers in an Interactive Advertising Bureau (IAB) poll said that they will source CTV and OTT ad dollars from their linear TV budgets. Digital display will be the second-largest source, accounting for 37% of OTT and CTV ad spending.

Remaining OTT and CTV ad dollars will pull from a mix of sources including out-of-home, print, and audio.

42% of US agency and marketing professionals said they would increase ad spending directed to OTT streaming services over the next 12 months.

(LACK OF) STANDARDIZATION IS STILL A PAIN POINT FOR TV, VIDEO ADVERTISERS

There are still many areas of both digital and traditional ad measurement where standards don't exist or are inadequate, and organizations including the Media Rating Council (MRC), the Coalition for Innovative Media Measurement (CIMM), and the World Federation of Advertisers (WFA) are working to put more and better standards into place.

It's especially a pain point for TV and video advertisers—who don't have a unified cross-screen currency for buying or measuring their campaigns. Even the long-standing way TV measurement is done by Nielsen is essentially unfit for sophisticated approaches to revenue attribution.

“Marketers thought TV was simple,” said Jane Clarke, CEO and managing director at CIMM. “But now that we have TV data, it's a lot more complicated because we hadn't had ad measurement in TV up until now. Nielsen will be launching ad measurement this year, but right now advertisers buy TV based on the average of all the ads throughout the entire program. The C3 rating is the rating of all the minutes with a preponderance of ads in them, averaged over the entire show. It's not the same as digital.”

That's just one example of how conflicting (or nonexistent) standards result in metrics appearing to be the same when they aren't. Marketers have the opportunity to make their needs understood as more standards are researched and developed. The MRC is currently working on a project around standards for outcome-based ad measurement and expects a notice and comment period later this year.

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Jane Clarke
CEO and managing director
CIMM

WORKING TOWARD HOLISTIC ATTRIBUTION

eMarketer estimates that by the end of 2020, 83.4% of US companies with at least 100 employees were using digital attribution models of some kind, including first- and last-touch models as well as more complex options. Some 63.6% of companies were using a multichannel attribution model (MTA) that is capable of attributing credit for an outcome to more than one marketing channel or touchpoint.

In the past, we've discussed a hierarchy of marketing measurement. At the bottom of this hierarchy, only basic metrics are available to evaluate things like reach and the return on investment of individual campaigns. Bringing multiple channels together in an approach like MTA allows marketers to assign credit for revenues in more complex ways, allowing for better optimization but still lacking a truly holistic view of what drives revenues for the business. Most of the experts we spoke with continued to recommend unifying a bottom-up approach like MTA with a top-down approach like marketing mix modeling (MMM) in order to achieve a holistic view.

MMM takes a host of factors into account beyond just advertising and marketing touchpoints, including elements like seasonality, weather, promotions, and other commercial factors that might influence revenues.

"The best-of-breed method is integrating together the top-down MMM approach that allows you to estimate all channels and influences with a bottom-up MTA approach that leverages customer event streams to inform contact strategies," said Scott Nuernberger, senior vice president of analytic solutions at performance agency Merkle. "To some extent, what's happening now is that more weight is being shifted toward MMM because it can compensate for where data is lacking. The MTA side is not going away. There's still a lot that can be done, especially around first-party identity graphs that are available, but the MMM side plays a bigger and bigger role."

US Companies Using Digital Attribution Models, 2019-2022

% of total

2019



2020



2021



2022



■ Multichannel attribution models

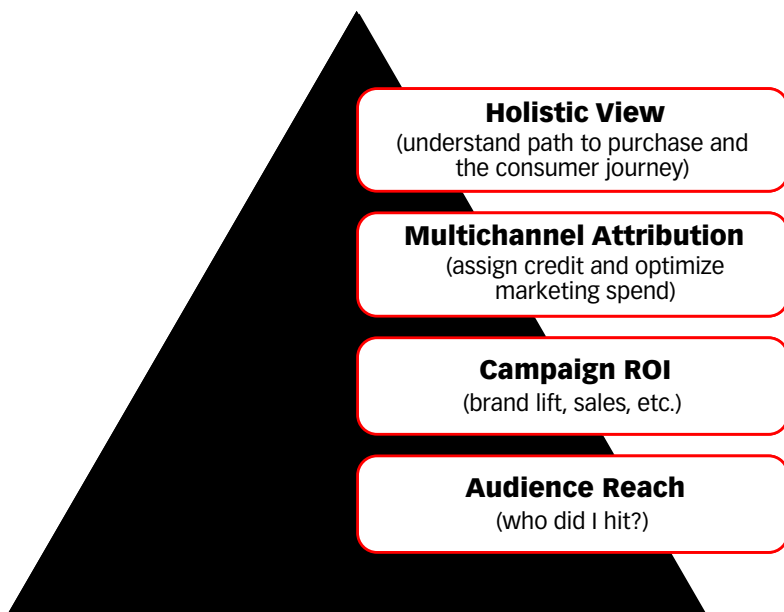
■ Digital attribution models

Note: companies with 100+ employees that use at least one digital marketing channel; an attribution model is a way to differentiate the respective contributions of various marketing channels to a desired outcome; includes first- and last-touchpoint models and more complex multichannel models; multichannel attribution models are attribution models capable of attributing marketing credit to more than one marketing channel or touchpoint to differentiate the respective contributions of various marketing channels to a desired outcome; models can include both digital and nondigital channels and touchpoints
Source: eMarketer, Dec 2020

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Marketing Measurement: a Four-Level Hierarchy



Source: eMarketer, Feb 2019

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This type of approach allows for the planning of media budgets as well as a better view of incrementality than MTA alone can provide.

“We still lean on aggregate analytics—MMM effectively—to do annual media planning, and we look at things like the impact of seasonality or the impact of a pandemic,” said Allyson Dietz, director of product marketing at measurement partner Neustar. “But then on the other side, what we find is that marketers still want that agility and ability to be able to manage things on a more tactical level. Should I invest more of my spend in young moms for my frozen pizza or that single male? Where am I going to get my greatest return on ad spend? And that’s where you need something like user-level analytics or MTA, to help optimize that piece of your marketing

plan and do that more on the fly. Combining those two things is really where you get the greatest bang for your buck.”

MULTITOUCH ATTRIBUTION (MTA):

A type of digital attribution that apportions credit for a conversion action to multiple ads or marketing messages that a user was exposed to. Often referred to as MTA. Models deployed across multiple marketing channels are known as multichannel attribution and can include both digital and traditional channels and touchpoints. Within multitouch attribution models, there are various ways to credit contributing touchpoints. These models can be used either in a single channel or in multichannel campaigns.

MARKETING MIX MODEL OR MEDIA MIX MODEL (MMM):

A type of top-down model that’s historically been used for traditional media planning and budgeting purposes. Sometimes called a commercial mix model since it can include factors like distribution. Unlike many digital attribution models, marketing mix models look at channel contributions at an aggregate level. Reporting is also less frequent than for digital attribution; many consult these models quarterly or yearly. Models may incorporate digital marketing data, but it is often added in aggregate. These models also typically pull in external influences affecting a desired outcome—pricing, weather, competitor data, etc.

UNDERSTANDING METHODOLOGIES AND VALIDATING RESULTS

A lingering difficulty for marketers hoping to attribute revenues to the right touchpoint is the opacity of various methodologies for doing so and the difficulty of validating the results of those methodologies. This is part of the problem the Media Rating Council (MRC) is working on in its research on outcome-based ad standards.

“One of the things that we aim to do, which we think is needed in this space, is just explain what those methodologies are, the strengths and weaknesses of each, and build some guardrails around when we think the methodologies may or may not be appropriate to use,” said George Ivie, CEO and executive director at the MRC. “Because that’s missing, it’s kind of up to each advertiser to experiment and learn that through the school of hard knocks on their own, and we’d rather take some of the mystery out of that.”

One common point of skepticism that came up in eMarketer’s interviews with industry figures was around the fact that some attribution methodologies will always credit a marketing touchpoint for an action, even though all marketers know that some conversions are made organically. Another point that came up in many of our interviews was the idea that “I’ve never seen a lift study that didn’t show a lift.”

The experts eMarketer spoke with discussed two major ways for marketers to consider validating their models currently. The first is to simply compare the results of the model with what they know about their business and how it works. Sometimes the results don’t pass this basic smell test—and that’s when marketers should investigate whether their data sources are clean and trustworthy, to make sure the problem isn’t with the inputs.

A FEW OPTIONS EXIST FOR AD EXPERIMENTATION TODAY:

- **Experiments that use public service announcements (PSAs) as the control group.** This is a traditional form of digital ad experimentation, but it does require advertisers to buy impressions that are used for PSAs, not their own ads. And ad servers that use machine learning to feed users ads they’re likely to click on could mean that your control group skews toward people who like to engage with PSAs, not the exact same types of people your own campaign would have targeted.
- **Experiments that use ghost ads.** Ghost ads have been around for a few years now and allow marketers to run experiments similar to those that use PSAs. However, the control group is tagged instead with a “ghost ad”— an ad you don’t pay for that no one sees, but whose metadata is appended to whatever other ad really won the auction. This allows for a better control group that is directly comparable with the treatment group, but it can be executed only in partnership with the entity running the auction.
- **Natural experiments investigated through your own campaign data.** For example, advertisers running display campaigns with millions of impressions will find that some portion of those impressions were 100% not in view. It’s possible to deduplicate that campaign audience and isolate users who were “exposed” only to 100% nonviewable ads and make them a control group.

But the gold standard for validating these models—and for doing a lot of the experimentation and test-and-learns—is the randomized controlled trial (RCT). There are various methods of experimentation in digital advertising, and not all involve an RCT. RCTs have limitations, but many of the experts we spoke with say these tests are becoming more popular, though sometimes advertisers still balk at the idea of paying to win impressions they won't use for their own ads. Still, using some type of experimentation process to test incrementality is gaining traction, and virtually all of the experts we spoke with for this report discussed its importance as a way of continually refining MMM and MTA models.

“Where we’re spending a lot of our time providing our clients guidance is on incrementality testing,” Shane McAndrew, chief data strategy officer at media agency network Mindshare USA said. “It’s been around for some time, but for some reason or another, whether it be discipline or the know-how, or simply the desire for something a little bit more ‘silver bullet,’ historically we’ve not seen marketers embrace incrementality testing at scale with consistency. That’s actually the centerpiece of our measurement infrastructures now, because we’re learning from these incrementality tests how to adjust the curves within our MMMs and within MTAs.”

“Where we’re spending a lot of our time providing our clients guidance is on incrementality testing.”



Shane McAndrew
Chief Data Strategy Officer
Mindshare USA

MEASURING THE IMPACT OF STREAMING AD INVESTMENTS

This article was contributed and sponsored by **Tubi**.



Karl Dawson,
Vice President, Audience Research, Tubi

In a digital media environment, we seemingly have all the tools to plan, buy, and measure investments. However, the fundamental questions of whether an advertising campaign reached and influenced its target audience, often remain unanswered. As an ad-supported streaming video on-demand platform with a massive audience, enabling brands to measure the effectiveness of their campaigns has always been critical.

Impact across the customer journey

For advertisers, attaining incremental reach in an increasingly fragmented ecosystem should be a key objective for media investments. Accordingly, publishers should build tech stacks fit for integration with partners that can efficiently measure not only incremental reach, but brand lift, online and offline conversions, and sales. First-party and trusted third-party data can inform advertisers as to what these audiences do after viewing their ads, in a manner that respects user privacy and honors marketing's purpose.

We partnered with TVSquared on a recent campaign for the grocery chain Winn-Dixie, and found that Tubi media reached an audience that was 78% incremental to the corresponding linear buy. The research also created opportunities to optimize for reach and web visits.

After reaching an audience, we must ask: are these ads valuable to that audience, and consequently, for the advertiser? To answer these questions, we integrate with partners to implement control-exposed methodologies.

According to data and analytics company Kantar, our recent work with a consumer packaged goods (CPG) brand drove a 104% lift in ad awareness and a 49% lift in brand favorability. In partnership with a location-based attribution partner for a quick-service restaurant (QSR) campaign, we saw a 16% overall lift in store visits, even greater lift in key markets for the brand, and even identified optimal frequencies for customer response.

What else can advertisers leverage in the near-term to truly understand their return on investment (ROI)? Ad tech must focus on consent-based consumer behavior in order to get the clearest picture possible for a brand's campaign. Creating an addressable marketplace helps to better measure ad spend in a manner unencumbered by the loss of third-party cookies and restriction of device IDs. As a result, advertisers will benefit from a full view into the impact of streaming on the customer journey.

Charting the future of measurement in streaming

We predict ad-supported streaming video consumption and opportunities for brands will continue to scale rapidly in the years ahead. The more viewers that experience free, seamless, and enjoyable streaming, the more effective advertising messages will become.

CERTIFIED MEASUREMENT PROGRAM

Tubi drives influence throughout the customer journey, with integrations and partnerships to give brands breakthrough reads on impact and ROI.

REACH



AWARENESS



FAVORABILITY



CONSIDERATION



CONVERSION



RETENTION



▲ **104%**

LIFT IN
AD AWARENESS

▲ **79%**

INCREMENTAL
AUDIENCE REACH

▲ **62%**

UPLIFT IN
STORE VISITS

AUDIENCE MEASUREMENT SHORTCOMINGS YOU NEED TO KNOW

As TV viewing continues to fragment across platforms, audience measurement gaps are widening, creating havoc for marketers and media agencies looking to connect their messages with the right people. Here are some main audience measurement shortcomings and how they affect media and advertising practices.

Who is watching? The rise of large, integrated TV and consumer data sets has advanced more precise targeting through data-driven-liner (DDL) products and the ability to assess the impact of specific TV networks, dayparts, programs, and creative executions via attribution measurement. DDL and attribution source TV audience data come from millions of homes, but there's no way to know which household members are actually watching. This gap in capturing viewership is critical for ensuring that ads for power tools and golf clubs, for example, are put in front of adult males, while video game commercials show up when younger people are watching. Misdirected ads will dampen sales lift.

For now, big data sets will continue to report TV viewing and product consumption at the household level given the like-for-like way the data is collected in both instances. "There's a general consensus that the industry is OK with households for now because a lot of the advanced target data is only available at the household level," said Josh Chasin, chief measurability officer at audience measurement firm VideoAmp. But the firm is exploring alternatives for infusing persons' estimates into the TV tuning data through modeling. Chasin describes this pursuit in two steps: First, identify a research source(s) where personal viewing is collected. Then, use this data set as a signal for modeling and scaling viewing to very large data sets.

In recent years, persons-viewing estimates for local broadcast stations in smaller markets have been modeled based on data from Nielsen's national panel. Previously, Nielsen respondents filled out diaries of their viewing over a seven-day period, a task that became increasingly more complex to execute and expensive to process and report. Outside Nielsen, most TV data suppliers are not capturing personal viewing from which they can model to a large set of homes. HyphaMetrics, a TV audience measurement start-up, has developed a technology solution that collects data across all devices within a household. Household members are offered several options for logging their viewing activity. Examples include pushing a button on a recording meter or on-person signal collection through mobile phone beacons, wearables, or key fobs. HyphaMetrics will be testing its measurement solution in 100 homes by the end of 2020, en route to 5,000 homes by H2 2021. "Our persons-level information could be joined with an existing company's household-level information to expand measurement and reporting capabilities of household-based systems," said Michael Bologna, president and chief revenue officer at HyphaMetrics.

Representing TV access modes. The way consumers access TV services indicates available content types and what they can potentially watch. Viewers in pay cable/satellite TV homes, for example, are more likely to watch linear TV versus those with only a broadband connection. Over-the-air homes may spend more time tuned to broadcast channels than pay or broadband-only households. Nearly a third (31.6%) of US homes accessed TV by means other than exclusive MVPD subscriptions with cable or satellite operators, including virtual MVPDs (vMVPDs), which represented 7.8% of all households, per September 2020 Nielsen data.

This diversity in TV access modes should be mirrored in the composition of homes included in measurement data sets to accurately depict viewership. For example, TV data providers looking to create audience reporting systems that reflect total US viewers should ensure that they include all household types within a national footprint. But building this data repository can be challenging, particularly for big data sets. Set-top box devices do not collect and therefore cannot report broadband or over-the-air viewing activity. Smart TVs can provide automatic content recognition viewing data in broadband-only and over-the-air homes. So, such data providers must accurately classify these homes by the types of content they watch.

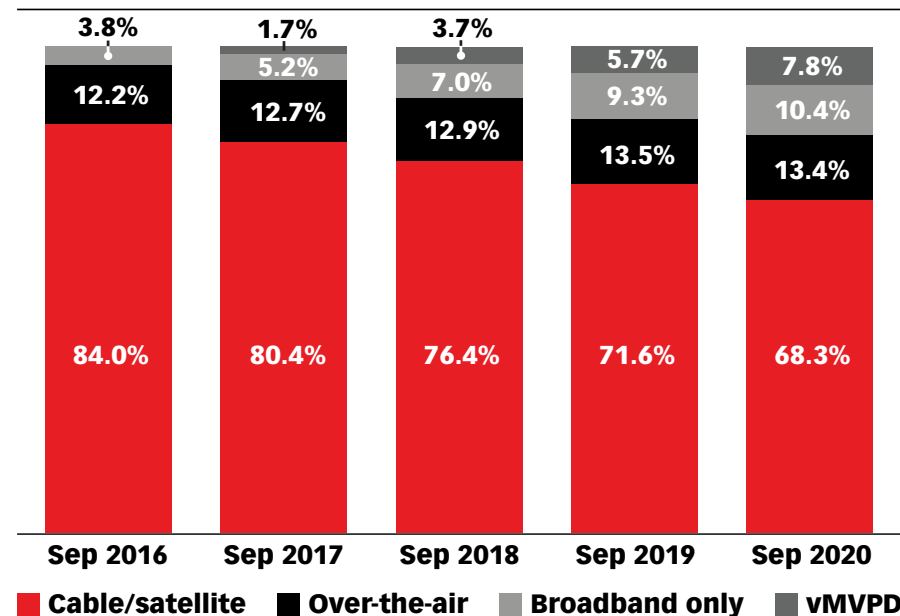
There are many options available for licensing large TV data sets in the marketplace today. It is unclear, however, to what degree these data processors can accurately identify the portion of homes in their database that represent pay, broadband-only, and over-the-air households that reflect the viewing population.

Local TV audience measurement. Most TV audience measurement innovations have historically been focused at the national/network level. The case for attention on national TV appears to be economically straightforward: one US geographic footprint versus 211 local designated market areas. This does not mean that the need for high-quality TV audience measurement is any less for local advertising. In fact, the same core issues like low sample size, cross-platform measurement of linear, CTV, addressable, etc. exist in myriad microcosms nationwide. According to Betsy Rella, vice president of research and data at New York Interconnect (NYI), a firm that offers local cable ad inventory in the New York area, the biggest issue is the lack of Nielsen-supplied viewing estimates that include all broadband-only homes. In NYI's situation, viewing metrics used for selling ad inventory include Nielsen for linear TV viewing, third-party survey data for streaming data, and NYI's ad-serving records for digital impressions. "Reporting of broadband-only viewing is defi-

nately the No. 1 gap; it's frustrating because we're using multiple sources to understand streaming usage within broadband-only and traditional TV households because estimates of total streaming are not yet available from Nielsen locally," she said.

As mentioned earlier, Nielsen implemented a process for developing local TV station and cable audience estimates modeled from set-top box data and the demographic audience composition reported by its people meter technology. This approach does not substantially cover reporting of broadband viewing.

US TV Households, by Distribution Platform, Sep 2016-Sep 2020
% of total TV households



Note: numbers may not add up to 100% due to rounding
Source: Nielsen, Oct 27, 2020

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A FUTURE VISION FOR TV AUDIENCE MEASUREMENT

The ideal TV measurement system would provide persons-based viewing metrics from a single data collection source that traverses all ad-supported platforms including linear, DVR, VOD, CTV, and addressable. But building such a system at scale with a sufficient sample size to integrate with consumer data is a big, expensive undertaking. If we consider the notion of a continuous loop of improvement versus perfection, then what would be the next enhancement in the evolution of TV audience measurement?

The opportunity in commingling measurement approaches. If the goal is to capture TV viewing across all platforms, then it makes sense to leverage the devices that deliver TV and advertising to consumers. Set-top box and automatic content recognition technology are the obvious starting points, since they represent primary big data conduits for capturing TV set tuning from millions of homes and TV sets. Neither data source by itself, however, can close the extensive list of TV audience measurement gaps. For example, set-top boxes provide tremendous reporting granularity of linear audiences but cannot collect CTV viewing. And while CTV data can be tapped from automatic content recognition signals, the average smart TV manufacturer has only 1.1 TV sets per household versus closer to 3 TV sets represented by set-top boxes, according to Claudio Marcus, vice president of strategy at Comcast Advertising. Automatic content recognition technology captures content that actually appears on the TV screen while set-top box data collects channel-tuning activity. Neither source is capable of measuring who is watching. However, combining the two can enable more comprehensive and accurate reporting. Measurement and reporting of linear and CTV in the same system is a key benefit of integrating the two technologies, while further enabling addressable TV campaign reporting is another.

Recognizing the need to develop a measurement approach that integrates linear and streaming content viewing, the Coalition for Innovative Media Measurement (CIMM) is wrapping up a study that identifies best practices for commingling set-top box and automatic content recognition TV tuning data. The first phase examines current data provider practices for collecting and reporting TV tuning data from both device types, including sample size, data gathering and reporting techniques, representation of the population, and matching of TV viewing metrics with consumer transactions. A second phase explores current processes for the actual commingling of the two data set types. This latter phase zeros in on how best to adjust and calibrate to the combined viewing metrics based on tuning captured in homes where both technologies are recording viewing from the same TV sets. The insights from this matched set of homes can then be used to standardize tuning estimates for a much larger set of homes where only stand-alone set-top box or automatic content recognition measurement exists.

The steady transition of linear to streaming viewing has accelerated the number of data providers engaged in such commingling in the past year. Their offerings include targeting, outcome measurement, cross-platform planning, or some combination thereof, such as those from VideoAmp or 605. Satellite and cable companies are combining data from smart TVs and cable boxes so that they provide more thorough reporting when they sell TV and streaming ads together.

Challenges of commingling. It is a big step in the right direction for improving TV audience measurement, but bringing commingling to fruition is fraught with issues. Licensing the data sets and hiring specialized talent to process and analyze the data is expensive, especially in these early days when many firms are working independently. And not all data owners are jumping into the movement. Many major smart TV manufacturers are more focused on operating ad tech platforms for selling highly targeted

commercial time on their devices versus licensing data for third-party use. This embargo on licensing may soften in the future as these ad platforms become more mature, but for now, ad revenues are the big draw. Meanwhile, most advertisers, media agencies, and TV firms lack the time and resources to kick the tires on the commingled products coming to market. Critical points of examination include how accurately the data sets reflect the population, validity of models used for describing viewers or viewing activity, and the potential drop-off in sample sizes when viewing and consumer data are matched. There are also differences in how to define viewing metrics to consider, such as the minimum number of seconds considered as a threshold for having an opportunity to see a commercial.

Advancement of commingled processing of this data is another step in the continuous loop of TV audience improvements. Despite the challenges, progress is likely to be steady, given the number and resolve of data providers and processors to develop and refine solutions.

If the goal is to capture TV viewing across all platforms, then it makes sense to leverage the devices that deliver TV and advertising to consumers.

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