Conviva's
State of Streaming
Advertising
2021

CONVIVA

dynata™

Streaming advertising represents an incredible opportunity for the premium publisher ecosystem to recapture ad dollars from the world's biggest brands and agencies. Digital identity is fractured, walled gardens like Facebook and Google increasingly lack the context and quality content advertisers seek for brand safety, and consumer privacy concerns are greater than ever. With ad-supported streaming services on the rise globally, premium publishers are in position to reclaim their throne as the benchmark for quality in digital advertising and attract the world's best and biggest brands—but they need to be wary of overconfidence.

This report provides premium streaming publishers a roadmap on how to grow their streaming ad revenues, tap into the $30 billion upside that exists in streaming advertising today, and engage their viewers in the process.

Key Findings

- **A lack of data is throttling streaming advertising investment.** 70% of sellers, but just 39% of buyers agreed that they have the data needed to run campaigns on streaming, representing a massive divide between publishers feeling confident in their ability to sell, and buyers feeling they lack the measurement, transparency, ROI, or scale to increase investments.

- **Targetable audience is a path to monetization but it's a struggle today.** Nearly three quarters of sellers agreed streaming inventory can be targeted in a programmatic ecosystem and effective audience targeting to households exists for direct buys, but less than half of buyers agreed.

- **Quality of experience (QoE) is as impactful for advertising as it is for content.** 54% of viewers agreed they abandon the stream when ads fail completely or take too long to load, while Conviva's quantitative data backs up viewer sentiment as after just a five-second ad delay, 19.24% of viewers have already abandoned the stream completely.

- **Overcoming privacy concerns is key to fully monetize streaming advertising.** While 69% of buyers and 75% of sellers agreed that they consider privacy laws, they must also consider how to build viewer trust by not allowing targeting that is too granular as less than a third of consumers were confident that their privacy is protected, while 29% have felt uncomfortably targeted by streaming ads.

- **Improved reach and frequency management can drive viewer satisfaction.** 59% of viewers agreed there are too many streaming ads repeated during the same break or episode, a critical issue that needs to be fixed to lure more dollars from buyers and increase the 36% of viewers who were satisfied with advertising on streaming.

- **Improved post-buy reporting will spur streaming advertising investment.** Brand safety is key to more investment but only 8% of buyers felt streaming content has context that is safe for their brand, however those who agreed were 174% more likely to recommend the medium.

- **A third of viewers represent "Untapped Potentials" for streaming advertising monetization.** This segment of viewers scored the lowest in streaming satisfaction, as just 6% agreed they liked the ads they saw on streaming, 12% agreed they found streaming ads to be relevant, and 17% indicated confidence that streaming protected their privacy.

Methodology

Data for this report was gathered though research conducted by Dynata with additional data from Conviva's proprietary Stream Sensor™ technology currently embedded in 3.3 billion streaming video applications, measuring in excess of 500 million unique viewers watching 180 billion streams per year with 1.8 trillion real-time transactions per day across more than 180 countries. Dynata surveyed two groups between February 17, 2021 and April 15, 2021. The first group was comprised of 1,944 consumers who are over 18 years of age and watch television or other video content through internet streaming. The second group was comprised of 608 total B2B advertising buyers and sellers who are over 18 years of age and employed full- or part-time. In the B2B group, 528 were connected TV/over-the-top (CTV/OTT) buyers and 92 linear buyers; 366 were CTV/OTT sellers and 48 linear sellers. Ad buyers were defined as people who have some or a great deal of influence in planning and buying decisions for video advertising. Ad sellers were defined as people who sell, manage, or deliver streaming video ad inventory.
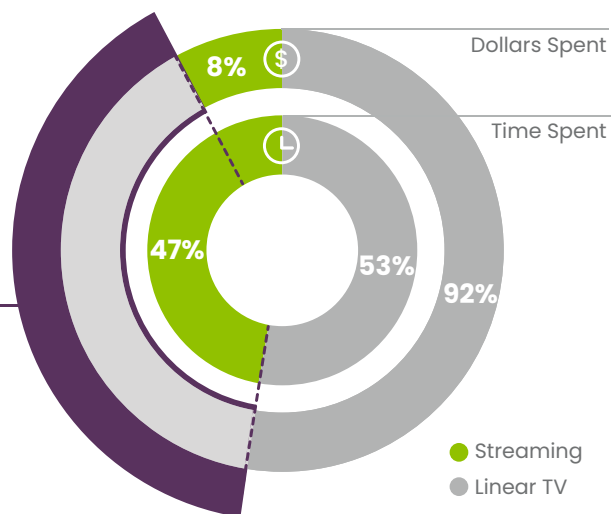
Why this study?

Streaming continues to grow rapidly, up 266% over the last three years. With a massive 91% of the population actively streaming and 18% not watching any linear television, having cut the cord completely, streaming will soon be the predominant viewing format. Although viewers have made the shift to streaming, advertisers have lagged. While viewers spend 47% of their viewing time on streaming, PwC estimates that even by 2024 advertisers in the U.S. market will spend a mere 8% of ad dollars on streaming. This is just $5.6 billion of the $71.6 billion television spend market. With streaming consumption set to overtake linear television consumption in 2021, this delta between eyeballs and dollars represents at least a $30 billion opportunity if streaming monetization can grow to the equivalent of linear television.

266%

3-year Growth in Streaming

Q1 2018 to Q1 2021
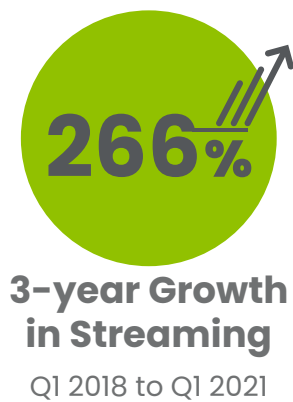
$30
BILLION

Missed Opportunity in Streaming

Dollars Spent

8% $

Time Spent

47%   53%   92%

● Streaming
● Linear TV

To better understand why this delta exists, this study analyzes the state of streaming across all constituents—viewers, buyers, and sellers—to understand what motivates viewers to keep watching, buyers to shift spend, and sellers to increase sales.

> "
> **With streaming, there is an opportunity to provide high-quality creative to consumers, but we need to evaluate how and when we reach them. It's time to move on from 1:1 targeting, with growing concerns over privacy and the challenge of scaling those campaigns, and think about how we can align ads with the content that viewers enjoy and trust."**

SCOTT McDONALD
President & CEO,
Advertising Research Foundation (ARF)

Consumer perspectives on streaming advertising

What drives viewer satisfaction with streaming ads?

Key drivers allow identification of areas in which a positive response increases the likelihood that the respondent was satisfied with advertising, or conversely dissatisfied. For consumers, 22 different attributes were considered, with only seven identified as key drivers of viewer satisfaction with streaming advertising. Positive sentiments about ad experience, relevance, and privacy protections on streaming were strongly associated with overall satisfaction with ads on streaming services.

> **Drivers Analyses are key to understanding what really motivates people. They allow us to focus on which variables are driving decisions and perceptions about streaming advertising."**

STEVEN MILLMAN
Senior Vice President,
Research and Operations,
Dynata

Viewers are most satisfied when entertaining, quality content, including the ads themselves, are free. An imbalance in content quality and ad quality can be jarring and not only impacts streaming ad satisfaction, but can also impact engagement. Consumers who agreed they were happy to watch some ads in return for free streaming services were 255% more likely to be satisfied with advertising on streaming services than those who disagreed. Similarly, if viewers agreed they liked the streaming ads they saw or liked to watch ads on streaming, they were much more likely to be satisfied with streaming advertising overall.
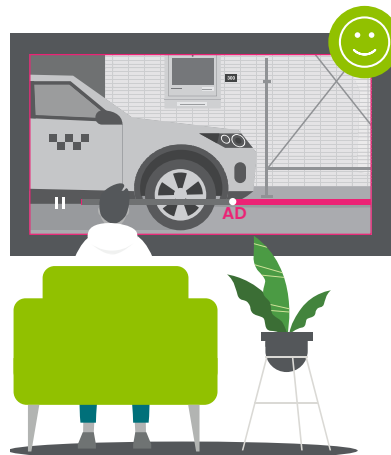
Overall, I am satisfied with advertising on OTT streaming services

I'm happy to watch some ads in return for free OTT streaming services
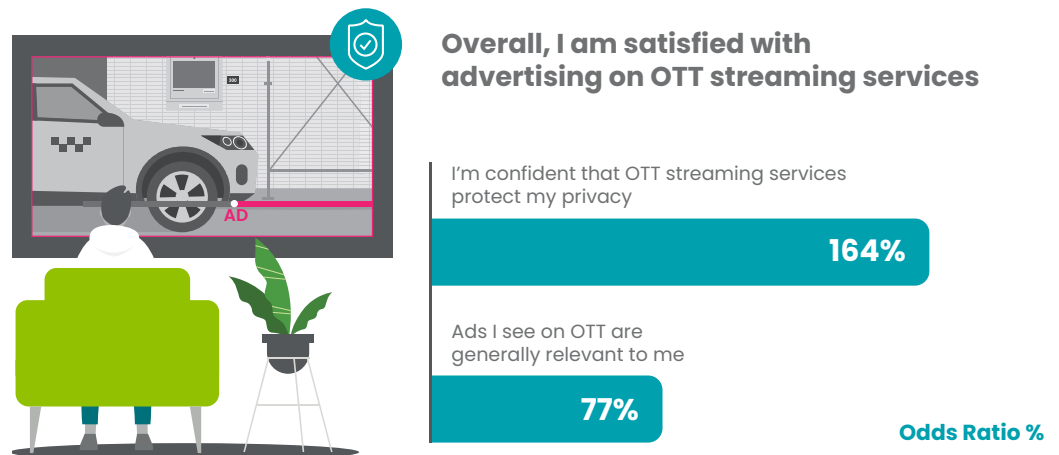
255%

I like the ads I see on OTT
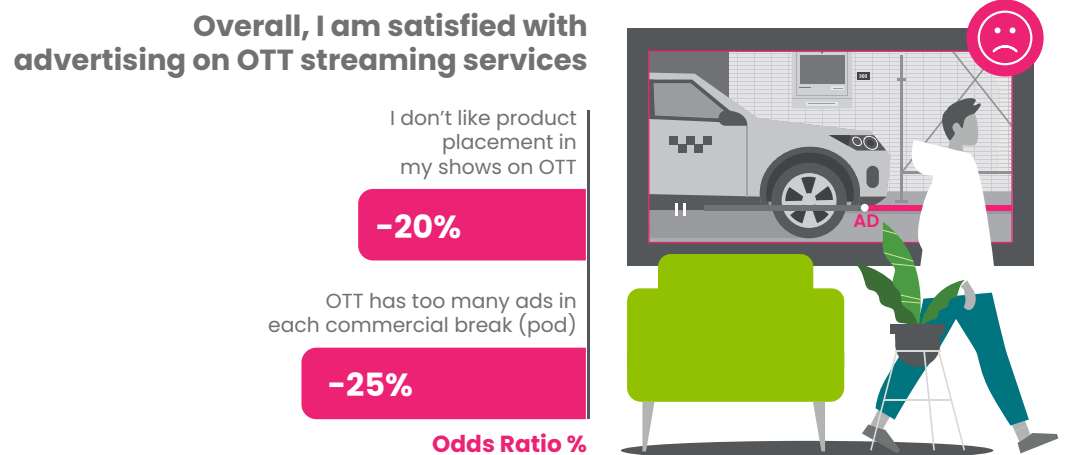
208%

I like to watch ads on OTT

73%

Odds Ratio %

Viewers value relevance but want to see this balanced with respect for privacy, which they value even more. When viewers felt ads were generally relevant to them this increased the likelihood they were satisfied with streaming advertising overall. But when ads seem too targeted, viewers begin to question what data is being used to target them or where the data comes from. Conversely, if viewers agreed streaming services protect their privacy, they were 164% more likely to be satisfied with streaming advertising overall. Viewers appreciate brands they recognize, high-quality creative, good technical QoE, and broadly relevant ads in streaming.

Overall, I am satisfied with advertising on OTT streaming services

I'm confident that OTT streaming services protect my privacy

164%

Ads I see on OTT are generally relevant to me
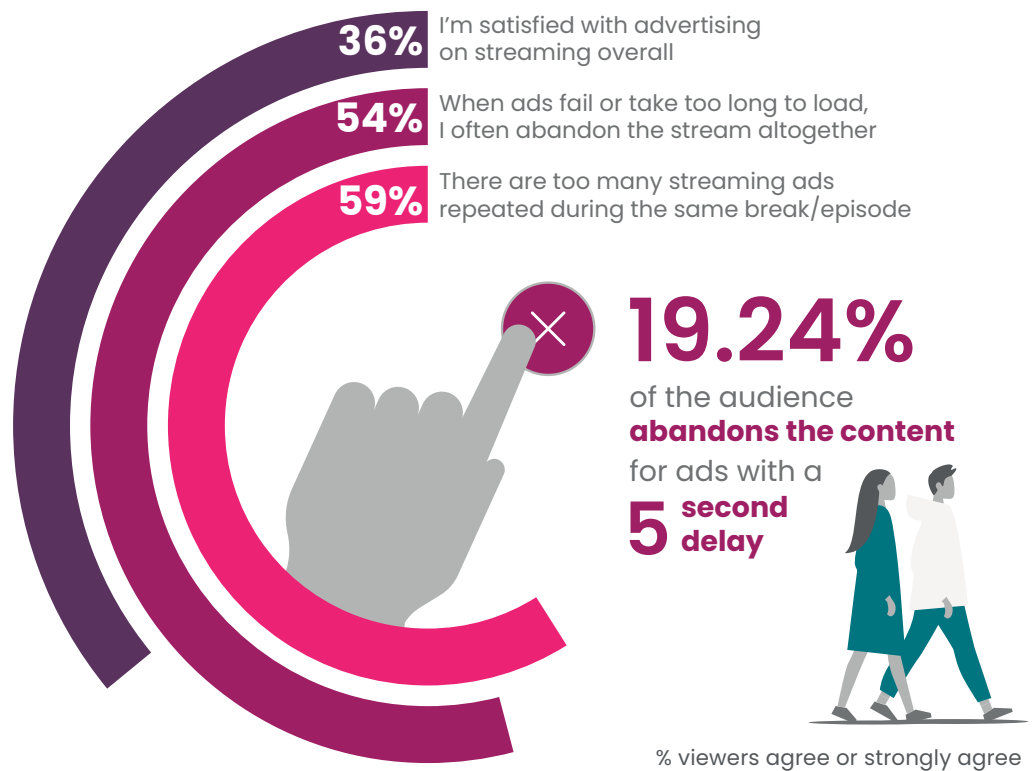
77%

Odds Ratio %

Conversely, negative sentiments about the ad experience on streaming services, such as feeling that there are too many ads in the break, were negative drivers of satisfaction. Viewers were 25% less likely to be satisfied with advertising on streaming services overall if they agreed that streaming has too many ads in each commercial break or pod. Managing reach and frequency is vital to a satisfying viewer experience for streaming advertising.

Overall, I am satisfied with advertising on OTT streaming services

I don't like product placement in my shows on OTT

-20%

OTT has too many ads in each commercial break (pod)
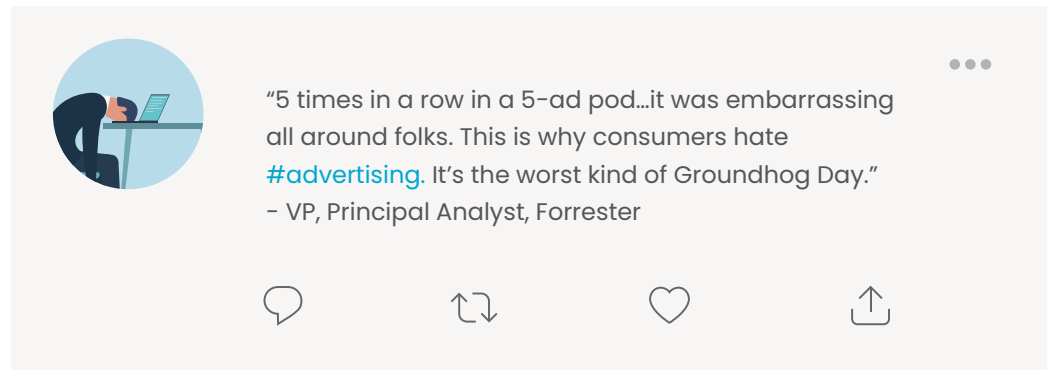
-25%

Odds Ratio %

Majority of viewers dissatisfied with streaming ads

With more options than ever, viewers' expectations of streaming video continue to rise, especially when it comes to the experience with advertising. Consumers want a seamless advertising experience similar to linear television, reduced ad load, and personalization that doesn't feel intrusive. While the content on streaming is certainly premium, many viewers feel that the ad experience isn't quite there. Only 36% of respondents were satisfied with advertising on streaming overall. This paltry satisfaction suggests that the exchange of value is in jeopardy for viewers receiving free content while publishers monetize with ads.

36% I'm satisfied with advertising on streaming overall

54% When ads fail or take too long to load, I often abandon the stream altogether

59% There are too many streaming ads repeated during the same break/episode

19.24% of the audience **abandons the content** for ads with a **5 second delay**

% viewers agree or strongly agree

Unique to streaming, QoE is of the utmost importance, but it is largely an unspoken issue in the industry when it comes to ads. With more than half of viewers willing to abandon content when ad quality is subpar, this is not an issue that can remain unaddressed. Anyone who has watched a program, movie, or promotion online knows that buffering and delayed starts are annoying, but these issues are also directly associated with the rate at which viewers leave. More than half of viewers surveyed agreed that when ads fail or take too long to load, they abandon the stream altogether. Conviva's data illustrates this problem as after just a five-second ad delay, 19.24% of viewers have already abandoned the stream.

One of the biggest areas of dissatisfaction with streaming advertising was reach and frequency. 59% of viewers reported that there are too many streaming ads repeated during the same break or episode. Ad repetition is wearing rather than endearing and often becomes a hot topic for viewers on social media.

> "5 times in a row in a 5-ad pod...it was embarrassing all around folks. This is why consumers hate #advertising. It's the worst kind of Groundhog Day."
> – VP, Principal Analyst, Forrester

While viewers may get annoyed and leave, it's the streaming publishers and advertisers that ultimately pay the price and not just with the potential negative brand affinity. Advertisers not only miss out on exposure and opportunities for engagement, but also the risk and missed opportunity cost is amplified when you take into account the subsequent ad breaks associated with that viewing experience.

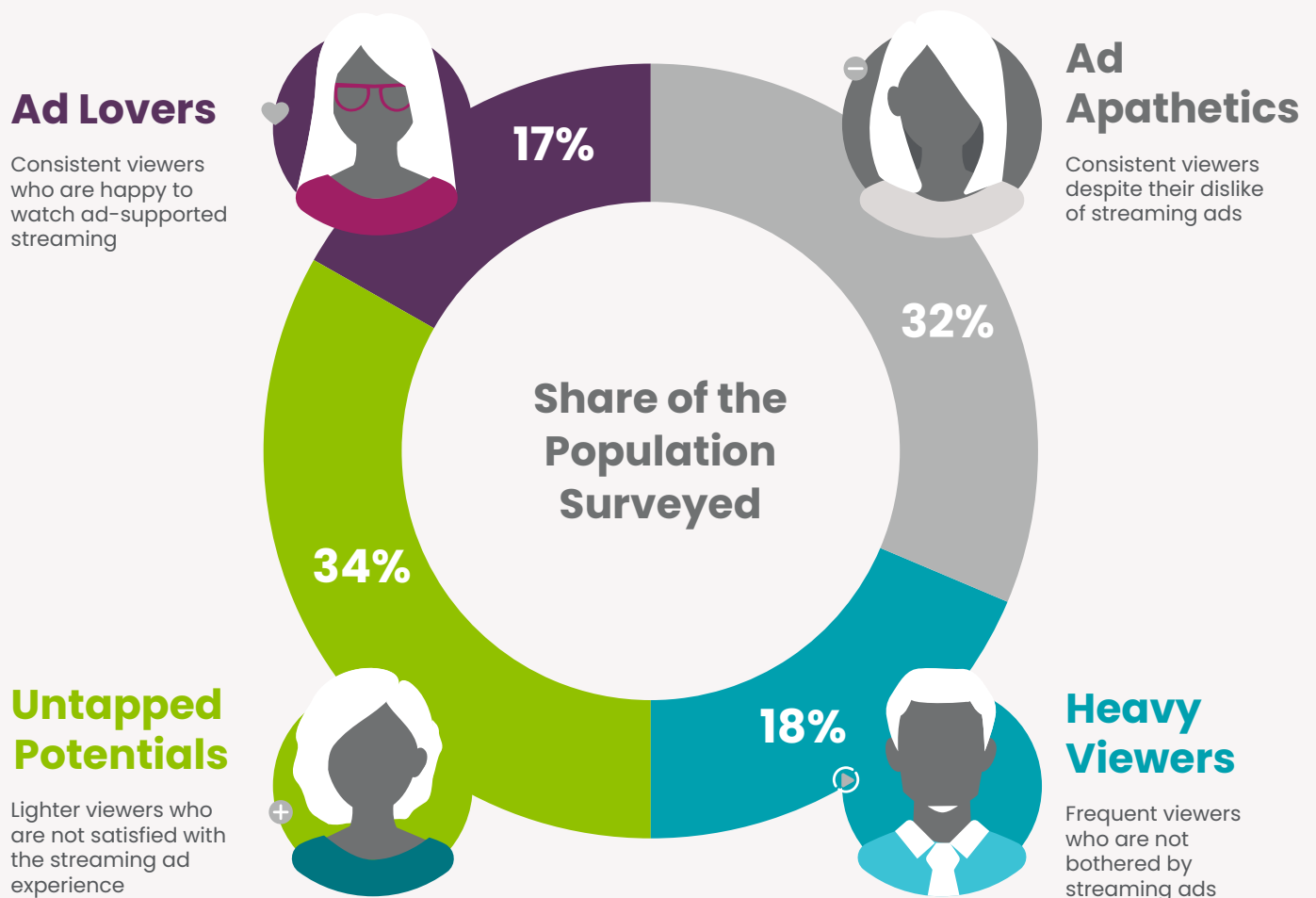## Free is great, especially if I can skip the ads

Despite the complaints about streaming advertising, the great news is more than half of viewers are happy to watch ads in return for free streaming services. However, dissatisfaction and modern streaming technology are a difficult combination for the streaming ad world, as three quarters of the audience will skip an ad if they're given the option.

56% happy to watch ads in return for free streaming services

BUT

75% usually skip an ad when they have the option
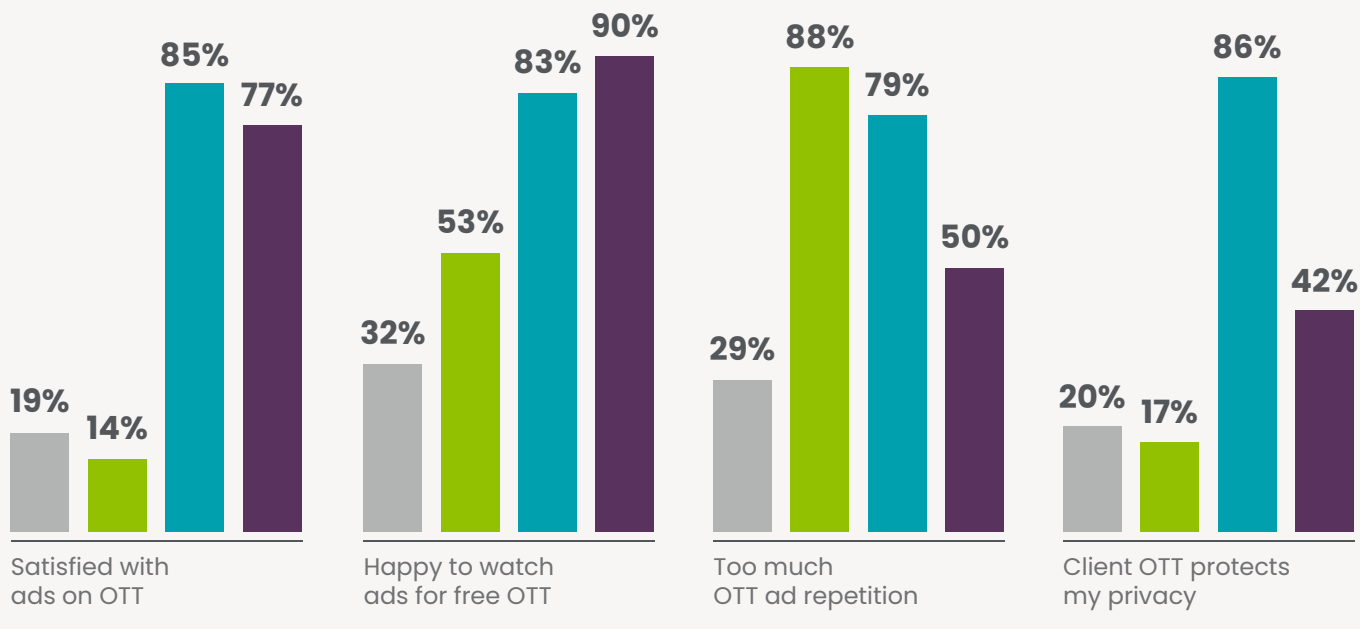
% viewers agree or strongly agree
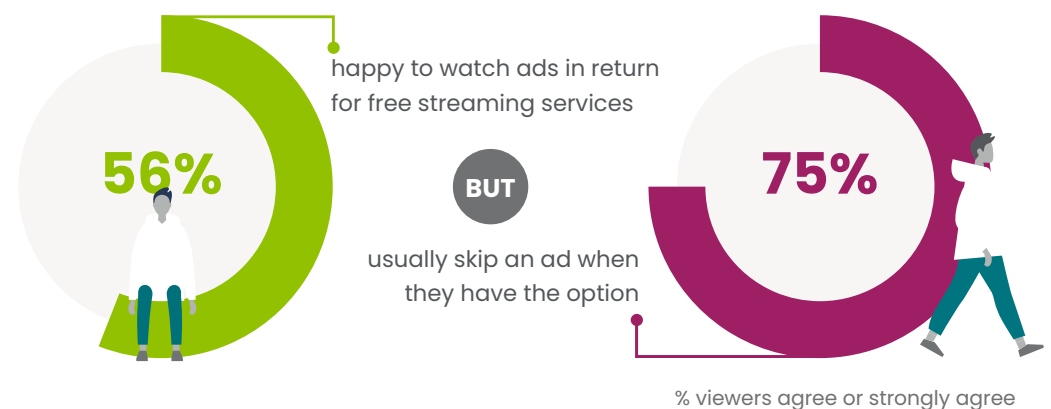
As viewers opt out, viewability is impacted and needs to be measured and managed. Similar to unsubscribe rates from direct marketing, viewability is a measure of satisfaction that can be captured through quantitative data and managed to make the industry better.
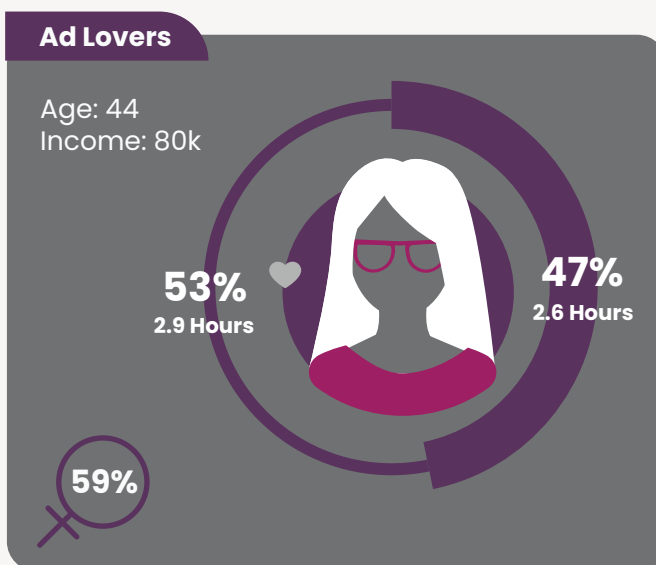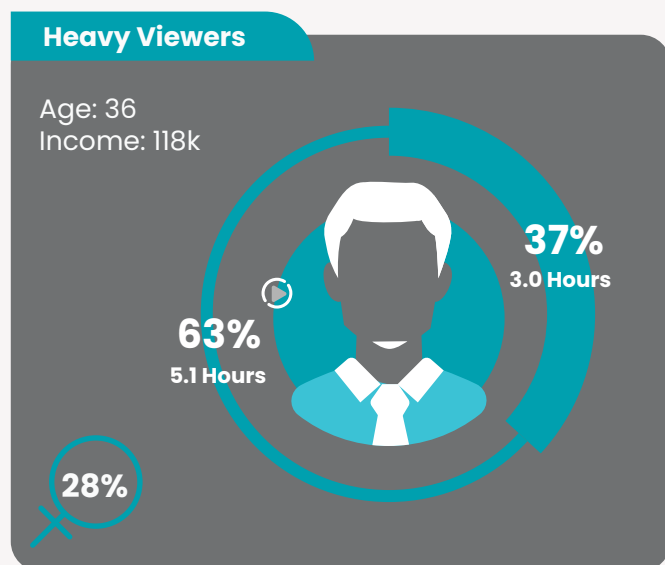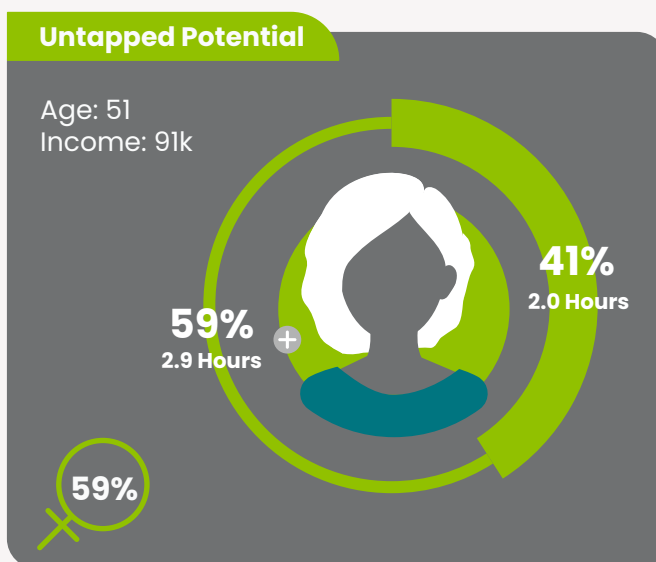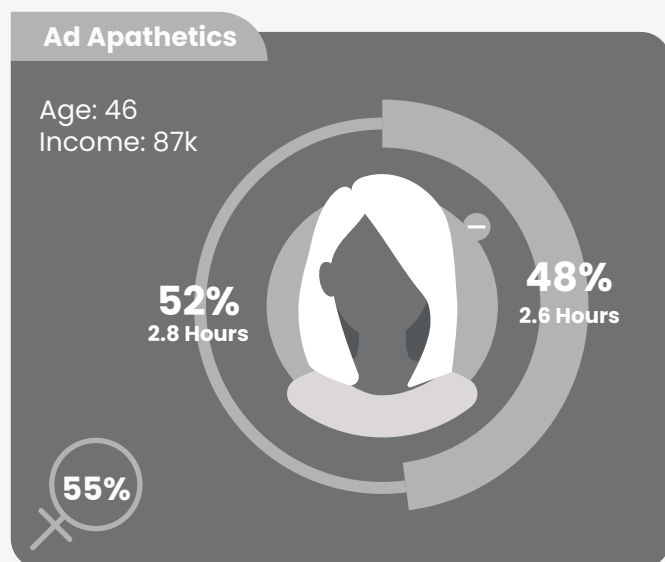
Meet the viewer:
a streaming ads cluster analysis

Clusters of respondents were identified among consumers, based on inputs including demographics and media consumption, panelists' streaming preferences, and ad experience variables. Four clusters were chosen as the best balance between group coherency and substantively valuable clusters and named for their relevant attributes. The clusters identified were: Ad Apathetics, Heavy Viewers, Ad Lovers, and Untapped Potentials.

Ad Lovers

Consistent viewers who are happy to watch ad-supported streaming

Ad Apathetics

Consistent viewers despite their dislike of streaming ads

Untapped Potentials

Lighter viewers who are not satisfied with the streaming ad experience

Heavy Viewers

Frequent viewers who are not bothered by streaming ads

Share of the Population Surveyed

17%

32%

34%

18%

Bar Chart Section

Satisfied with ads on OTT
- 19%
- 14%
- 85%
- 77%

Happy to watch ads for free OTT
- 32%
- 53%
- 83%
- 90%

Too much OTT ad repetition
- 29%
- 88%
- 79%
- 50%

Client OTT protects my privacy
- 20%
- 17%
- 86%
- 42%

% viewers agree or strongly agree

Ad Apathetics
Age: 46
Income: 87k

52%
2.8 Hours

48%
2.6 Hours

55%

Untapped Potential
Age: 51
Income: 91k

59%
2.9 Hours

41%
2.0 Hours

59%

Heavy Viewers
Age: 36
Income: 118k

63%
5.1 Hours

37%
3.0 Hours

28%

Ad Lovers
Age: 44
Income: 80k

53%
2.9 Hours

47%
2.6 Hours

59%

Diving into what attributes epitomize each cluster reveals opportunities to address concerns that would result in increased viewership.

Ad Apathetics

Despite being apathetic about ads, Ad Apathetics are fairly consistent viewers of streaming video, averaging 2.6 hours per day. Ad Apathetics were somewhat more likely to be women (55%), were 46 years old on average, and had an average household income of $87K. When asked if they agree or strongly agree, Ad Apathetics are:

- Neither especially satisfied with ads on OTT (19%) nor terribly concerned with targeting (14%).

- Also not particularly concerned that there is too much ad repetition (29%) or too many ads per break (24%).

- Fairly consistent viewers of streaming video (2.6 hours/day), and their indifference to advertising may explain why they are not much interested in paying to avoid ads (20%).

- Not expected to watch more OTT next year (20%).

Heavy Viewers

Heavy Viewers, as you might expect, report consuming more television than any other cluster but sway heavily towards linear TV with 5.1 hours of linear compared to 3 hours streaming per day. Heavy Viewers were predominantly men (72%), higher income ($118K), and younger with an average age of just 36. When asked if they agree or strongly agree, Heavy Viewers are:

- The most satisfied with ads on OTT (85%), most likely to recommend ad-supported OTT to others (87%), and most confident that OTT protects their privacy (86%).

- Happy to watch ads for free OTT (83%), but this cluster was also the most likely to say they would rather pay than watch ads (81%).

- Of the belief that there are too many ads on OTT (74%) and that there is too much ad repetition (79%).

- Expected to watch more OTT next year (87%), even given their already significant viewership.

Ad Lovers

Even though they watch essentially the same amount of streaming, at 2.6 hours per day and linear television at 2.9 hours per day, as the Ad Apathetics, Ad Lovers are much more satisfied with the experience. Ad Lovers were much more likely to be women (59%), were 44 years old on average, and had an average household income of $80K. When asked if they agree or strongly agree, Ad Lovers are:

- Highly satisfied with ads on OTT (77%) and are very likely to recommend ad-supported OTT to others (81%).

- The most likely of all clusters to say they are happy to watch ads for free OTT (90%) and the least likely to say they feel uncomfortably targeted by those ads (10%).

- Least likely to feel there are too many ads (27%), but half of the Ad Lovers still believe that there is too much ad repetition.

- Expected to watch more OTT next year with more than three-quarters (76%) responding positively.

Untapped Potentials

Untapped Potentials are the largest cluster, making up about a third of all viewers. They watch the least streaming of all the clusters at just 2 hours per day and express a strong dissatisfaction with the ad experience on streaming. When asked if they agree or strongly agree, Untapped Potentials are:

- The least likely to be satisfied with ads on OTT (14%), to recommend ad-supported OTT (22%), or to believe that OTT protects their privacy (17%).

- The most likely to say that there is too much ad repetition (88%) and too many ads per break.

- Mixed on whether they expected to watch more OTT next year with just over a third (37%) responding positively.

Tapping the biggest potential

As a third of all viewers, the Untapped Potentials cluster represents a significant opportunity for increasing consumption and reach. At a high level, this group had both the lowest consumption of streaming video and the highest dissatisfaction with the ad-supported streaming experience. Looking deeper, the Untapped Potentials scored the lowest across the board on all of the strongest drivers streaming viewership and satisfaction as only 12% said they found the ads on OTT to be relevant to them, 6% said they liked the ads they saw on OTT, and 17% indicated confidence that OTT protected their privacy.

The group was also dissatisfied with the quantity and frequency of ads as 85% responded that there were too many ads per break on OTT and 88% felt that there was too much ad repetition. Given that this cluster is both the largest group and scores the lowest on all of the key drivers of OTT viewership, there is a potentially very large opportunity to increase reach and total minutes viewed in the marketplace by improving the ad experiences of concern to the Untapped Potentials.

Seller, buyer, and viewer perspectives on streaming advertising
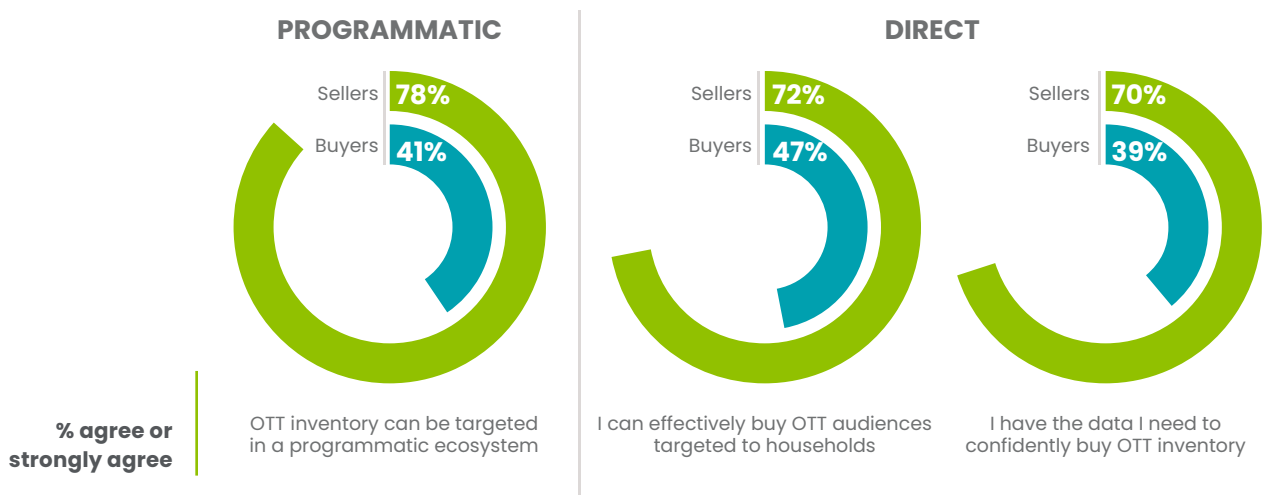
Are we aligned?

There are major gaps between how publishers and buyers perceive the ad opportunity on streaming. While publishers feel fairly confident in their ability to sell, buyers don't have confidence in the measurement, transparency, ROI, or scale that they need to grow investments. With publishers' confidence overstated in the quality of streaming ad offerings and ability to monetize streaming, buyers and viewers are left without the assurances needed to increase confidence in the medium. One way this has manifested is the slower shift than many publishers would like in investments from linear television to streaming. For publishers to understand this, they must look at perceptions of their stakeholders including balancing targeting and privacy, managing ad experience, increasing transparency, and offering comprehensive measurement.

Publishers see targeting as a ticket to drive revenue

Among sellers, targeting efficiency was the primary driver for expecting to sell more advertising on streaming platforms in the next year. But, if targeting is the best way to drive revenue, strategies must be aligned and market realities evaluated. Sellers who agreed that streaming inventory can be targeted in a programmatic ecosystem were 187% more likely to expect to sell more streaming advertising than those who disagreed. Similarly, sellers who believed streaming audiences could be targeted to individuals were 90% more likely to expect to sell more.

The question then becomes if publishers are even able to provide the data buyers need. There are many strategies for targeting today, and new ones are emerging as privacy polices of gatekeepers change. As publishers test out strategies, such as cohorts or unique identifier (UID), they need to ensure they aren't giving up their own valuable data, but at the same time, they must provide transparency and verification to buyers. Strategies beyond granular 1:1 targeting should be evaluated, including sentiment and contextual-based targeting, to provide viewers with ads when they will be most receptive to them.

PROGRAMMATIC

Sellers **78%**
Buyers **41%**

OTT inventory can be targeted in a programmatic ecosystem

DIRECT

Sellers **72%**
Buyers **47%**

I can effectively buy OTT audiences targeted to households

Sellers **70%**
Buyers **39%**

I have the data I need to confidently buy OTT inventory

% agree or strongly agree

Unsurprisingly, sellers were nearly twice as confident that they have the data to sell streaming as they were significantly more optimistic about the value of OTT inventory and ad experience as compared to buyers. While 78% of sellers agree OTT inventory can be targeted in a programmatic ecosystem, only 41% of buyers felt that was possible. The split continued for direct buys; when asked about effective audience targeting to households, 72% of sellers agreed it was possible while only 47% of buyers affirmed that point. Confidence in the data to effectively buy OTT inventory was again split as 70% of sellers agreed while only 39% of buyers did. These dramatic differences indicate a very different point of view between the buy and sell sides of the industry around ad-supported streaming services.

Privacy considerations: regulations and viewer perceptions

There is a big perception issue with privacy as less than a third of consumers are confident that their privacy is protected, while 29% feel uncomfortably targeted by streaming ads. This is despite buyers and sellers confirming that they consider privacy in ad strategy. 69% of buyers agreed that they consider privacy laws while building ad strategies, and 75% of sellers confirmed they think about compliance with privacy laws when selling ad inventory. This discrepancy illustrates that publishers can't just focus on the legal implications, but also must consider how to build viewer trust by not allowing targeting that is too granular.

31%
CONSUMERS

are confident that their privacy is protected

69%
BUYERS

consider privacy laws while building ad strategies

75%
SELLERS

think about compliance with privacy laws when selling ad inventory

"
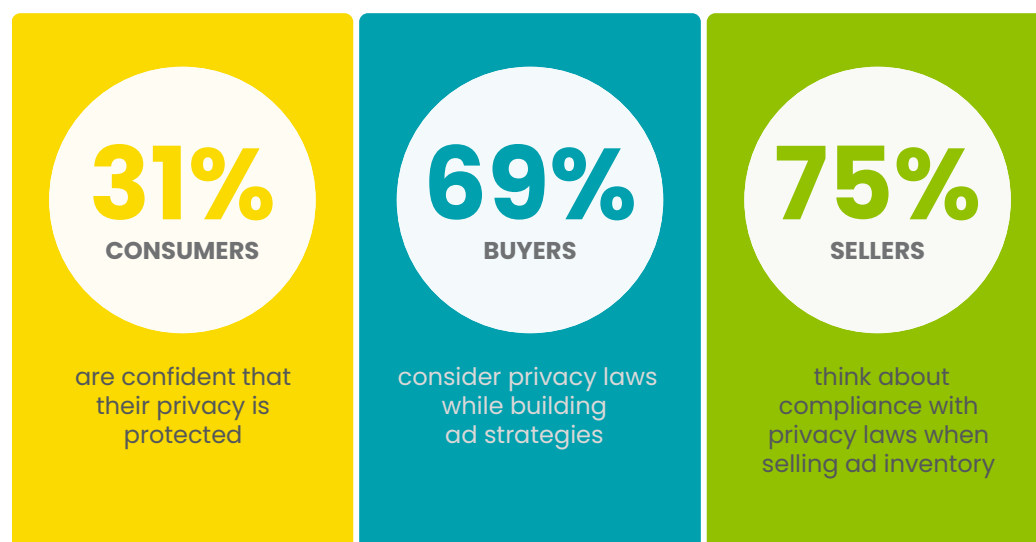
In the next 1-2 years, we will see publishers increasingly take control of their data. Instead of allowing their consumers to be tracked across other sites, they will become their own walled gardens with highly defined audiences available for advertisers to target in compliant and scalable ways."

JANE CLARKE
CEO, Managing Director,
Coalition for Innovative Media Measurement (CIMM)

Buyers need to know content is safe for their brand

Buyers want to invest in OTT; it's a growing platform with many new creative opportunities. But the inability to understand delivery in the same way as linear investments is a concern on streaming. Buyers can't see what programs their ads ran on, and, in programmatic, they can't even see what genres are performing best for them. This uncertainty translates to only 8% of buyers agree that streaming content has context that is safe for their brand. Brand safety is key to recommending buying streaming, as the 8% who thought streaming was safe were 174% more likely to recommend the medium. Publishers aren't doing enough today to ensure brand safety on streaming content and aren't transparent with buyers about what they are buying.

Unfortunately, very few buyers see the streaming ad ecosystem delivering on what they need. Only 10% felt satisfied with the episode-level brand visibility for programmatic buys while a little more than half agreed they have the data they need for CTV investment. It is important for publishers to observe where the gap is among buyers, sellers, and consumers across all these categories as there are ways to address many of the concerns raised.

8% ⟺ **174%** 8% of buyers who responded positively were **more likely to recommend OTT**

OTT content generally has context that is safe for my brand

10%

I am satisfied with episode-level brand visibility for programmatic buys
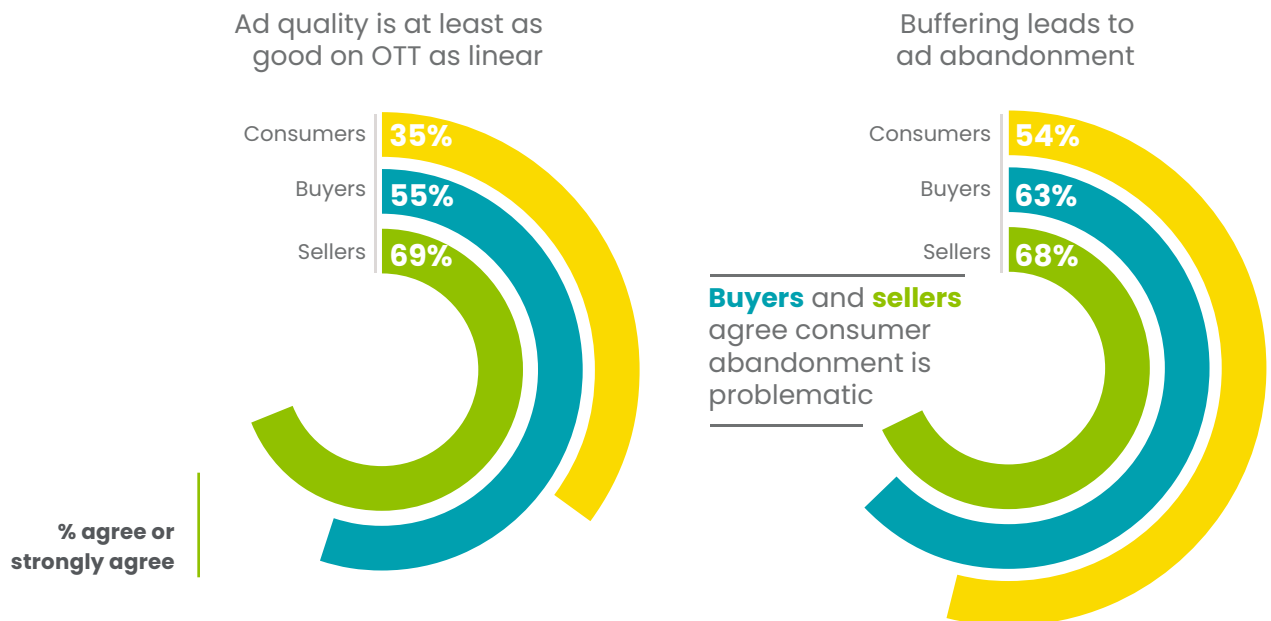
59%
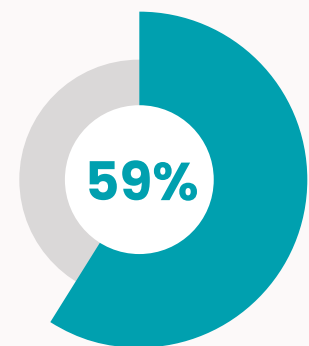
I have the data I need to confidently buy CTV inventory

% buyers agree or strongly agree

# Buyers disagree with publishers' platform-agnostic view of inventory

Because it's not directly tied to monetization, quality of the QoE is often an afterthought. But, as with viewability, there are many reasons buyers might not see the same return on investments because of a poor experience on streaming. While 69% of sellers think ad quality on streaming is as good on linear, only a little over half of buyers feel similarly, and only a little over a third of consumers agree.

Ad quality is at least as good on OTT as linear

Consumers **35%**
Buyers **55%**
Sellers **69%**

% agree or strongly agree

Buffering leads to ad abandonment

Consumers **54%**
Buyers **63%**
Sellers **68%**

Buyers and **sellers** agree consumer abandonment is problematic

Consumers agree that buffering leads to ad abandonment, and buyers and sellers both think this is problematic, but the extent of the problem may not be readily obvious. Conviva has frequently measured ad buffering as the silent engagement killer, which has historically been a blind spot for streaming providers left to wonder why their audience abandoned during an ad. Considering the effect of ad buffering, for viewers who didn't even make it through 5% of their content, pre-roll ads tallied an average rebuffering ratio of 1.59%. When a viewer did make it past that 5% threshold, an indication they are engaged with the content, pre-roll ad buffering was 0.40% on average. Even a seemingly small decrease in ad buffering can result in large increases in content engagement and monetizable viewing time.

# Is anyone satisfied with ad reporting capabilities?

A data transparency solution doesn't exist in market that meets the needs of all constituents for streaming measurement. While nearly 80% of sellers think measuring campaign effectiveness is harder on CTV than other video platforms, only 19% of buyers agree. Similarly, 70% of sellers feel pixels and ad servers are too limited to deliver advanced ad measurement for streaming while only 26% of buyers feel similarly. In terms of channel network visibility for programmatic buys, 70% of sellers were satisfied while only 44% of buyers agreed. At the end of the day, we're left with buyers and sellers asking the same questions: How do we provide insight for buyers at the same level of transparency of linear television? How can publishers provide first-party verified measurement to buyers that they will accept?

| Buyers | 44% |
| Sellers | 70% |
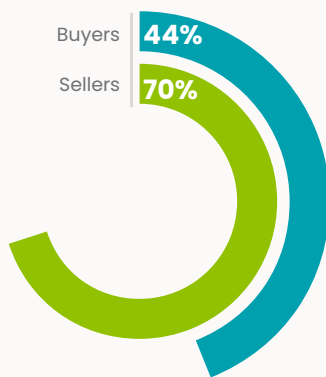
I am satisfied with the channel network visibility for programmatic buys

| Buyers | 26% |
| Sellers | 70% |
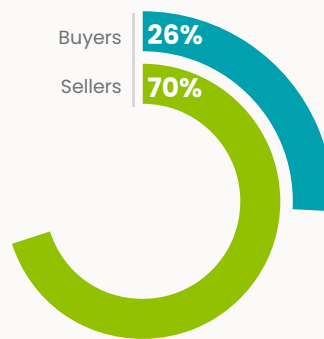
Pixels and ad servers are too limited to deliver advanced measurement for OTT

| Buyers | 19% |
| Sellers | 79% |
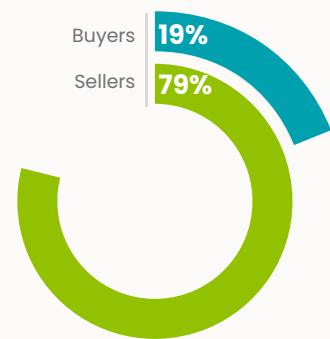
Measuring campaign effectiveness is harder on CTV than other video platform

% agree or strongly agree

Conclusion

Streaming advertising is a massive, viable opportunity for premium publishers to grow their businesses but there are five critical areas to address to capitalize on this opportunity:

- **Deliver targetable audience**: As publishers test out targeting strategies, capabilities beyond granular 1:1 targeting should be evaluated to provide viewers with ads when they will be most receptive to them. But publishers need to be able to control their own valuable data, while also providing transparency and verification to buyers.

- **Support better quality of experience**: Because it's not directly tied to monetization, QoE is often an afterthought, but even a seemingly small improvement to a quality metric like ad buffering can result in large increases in content engagement and monetizable viewing time.

- **Manage reach and frequency**: One of the biggest areas of dissatisfaction with streaming advertising was ad load and repetition. Managing this is vital to a satisfying viewer experience and therefore necessary to boost investment in streaming advertising.

- **Provide post-buy measurement**: Publishers need to recognize the gap between their perceptions and those of advertisers in regard to ensuring brand safety on streaming and provide transparency to buyers about what exactly they are buying.

- **Protect viewer privacy**: Despite buyers and sellers confirming that they consider privacy in ad strategy, they must also consider how to build viewer trust as less than a third of consumers were confident that their privacy is protected.

A rare confluence of technical changes, consumer trends, and advertiser support for a return of brand-safe, measurable, quality advertising makes this opportunity particularly challenging to execute upon. However, when fully realized, the streaming ad market forecast of $5.6 billion could easily balloon to $30 billion or $40 billion with premium publishers capturing more than their fair share of this upside if they can address key challenges holding back spend.

Research Methodology

Data for this report was gathered though research conducted by Dynata with additional data from Conviva's proprietary Stream Sensor™ technology currently embedded in 3.3 billion streaming video applications, measuring in excess of 500 million unique viewers in 180 countries.

Two groups were surveyed by Dynata between February 17, 2021 and April 15, 2021.

The first group was comprised of 1,944 US-based consumers who are over 18 years of age and watch television or other video content through internet streaming. Dynata identified a 91% incidence rate for streaming with 9% of the population not streaming, as well as a 93% internet penetration as 7% had no internet. Overall, 18% of the population is considered "cord cutters" who solely stream and do not watch any linear television, while 10% watches linear television but no streaming. 72% of the population watch both streaming and linear television.

The second group was comprised of 608 total US-based B2B advertising buyers and sellers who are over 18 years of age and employed full- or part-time. In the B2B group, 528 were connected TV/over-the-top (CTV/OTT) buyers and 92 linear buyers; 366 were CTV/OTT sellers and 48 linear sellers. Ad buyers were defined as people who have some or a great deal of influence in planning and buying decisions for video advertising. Ad sellers were defined as people who sell, manage, or deliver streaming video ad inventory.

Groups were further analyzed using drivers analysis and cluster analysis.

Drivers Analysis Methodology

For the drivers analysis, each key metric is used as the dependent (predicted) variable in a logistic model that includes the opinions/attributes as independent (predictor) variables and holds constant control variables such as age, gender, income, streaming use, etc. Opinions/attributes that have statistically significant effects on the key metrics are reported along with their odds ratio.

The odds ratio can be interpreted as the percent change in the likelihood of a top-two box response to the metric when the opinion or attribute has a top-two box answer. EXAMPLE: An odds ratio of 73% for "I like to watch ads on OTT" in the satisfaction model would be interpreted as follows: Respondents who "Agree" or "Strongly Agree" that they like to watch ads on OTT were 73% more likely to say they "Agree" or "Strongly Agree" that they were satisfied with advertising on OTT streaming services compared to those who did not agree that they like to watch ads on OTT. Only statistically significant attribute drivers were reported.

Cluster Analysis Methodology

Input data considered for the cluster analysis included demographics and media consumption, panelists' OTT preferences, and ad experience variables. LASSO regression model was used as a variable reduction process to eliminate collinearity (highly correlated variables). Remaining variables formed the basis of the final cluster analysis. For the model selection, Gower dissimilarity distance was used to separate respondents into coherent clusters. Four clusters were chosen as the best balance between group coherency and substantively valuable clusters. The model produced distinct groups and good separation between clusters.

Conviva is the intelligence cloud for streaming media. Powered by our patented Stream Sensor™ and StreamID™, our real-time platform enables marketers, advertisers, tech ops, engineering and customer care teams to build, engage and monetize their audiences. Conviva is dedicated to supporting brands like CCTV, DAZN, Disney+, Hulu, Paramount+, Peacock, Sky, Sling TV, TED and WarnerMedia as they unlock the incredible opportunity in streaming media. Today our platform processes nearly 2 trillion streaming data events daily, supporting more than 500 million unique viewers watching 180 billion streams per year across 3.3 billion applications streaming on devices. Conviva ensures digital businesses of all sizes can stream better—every stream, every screen, every second.

Any Questions?
Visit www.conviva.com or contact Conviva at pr@conviva.com.

Dynata is the world's largest first-party data and insights platform. With a reach that encompasses over 62 million consumers and business professionals globally, and an extensive library of individual profile attributes collected through surveys, Dynata is the cornerstone for precise, trustworthy quality data. The company has built innovative data services and solutions around its robust first-party data offering to bring the voice of the customer to the entire marketing continuum – from strategy, innovation, and branding to advertising, measurement, and optimization. Dynata serves nearly 6,000 market research, media and advertising agencies, publishers, consulting and investment firms and corporate customers in North America, South America, Europe, and Asia-Pacific. Learn more at www.dynata.com.