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UPDATED GUIDE TO ATTENTION IN DIGITAL ADVERTISING

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Introduction - Defining Attention

In psychology, attention is defined as "the concentration of awareness on some phenomenon to the exclusion of other stimuli." In a digital advertising context, **attention is defined as the extent to which consumers are concentrating on commercial messaging**. Attention metrics go beyond traditional metrics such as viewability to assess whether consumers are focusing on and engaging with ads.

As attention stems from users, it is defined as a measure of audience by the MRC. As a result, viewability, invalid traffic filtration, and the confirmation that an actual user is present are considered prerequisites to producing attention metrics. However, assessing attention does not require “identification of an individual or assignment of any demographic or behavioural characteristics”.

The Advertising Research Foundation (ARF) describes advertising attentiveness as: “the degree to which those exposed to the advertising are focused on it – ranging from a very brief exposure (or 'scan') that is likely to leave very little memory trace, to intense focus with cognitive and emotional engagement that can lead to enduring recall and impact attitudes and behaviour – both positively and negatively.”

Attention in Creative and Media

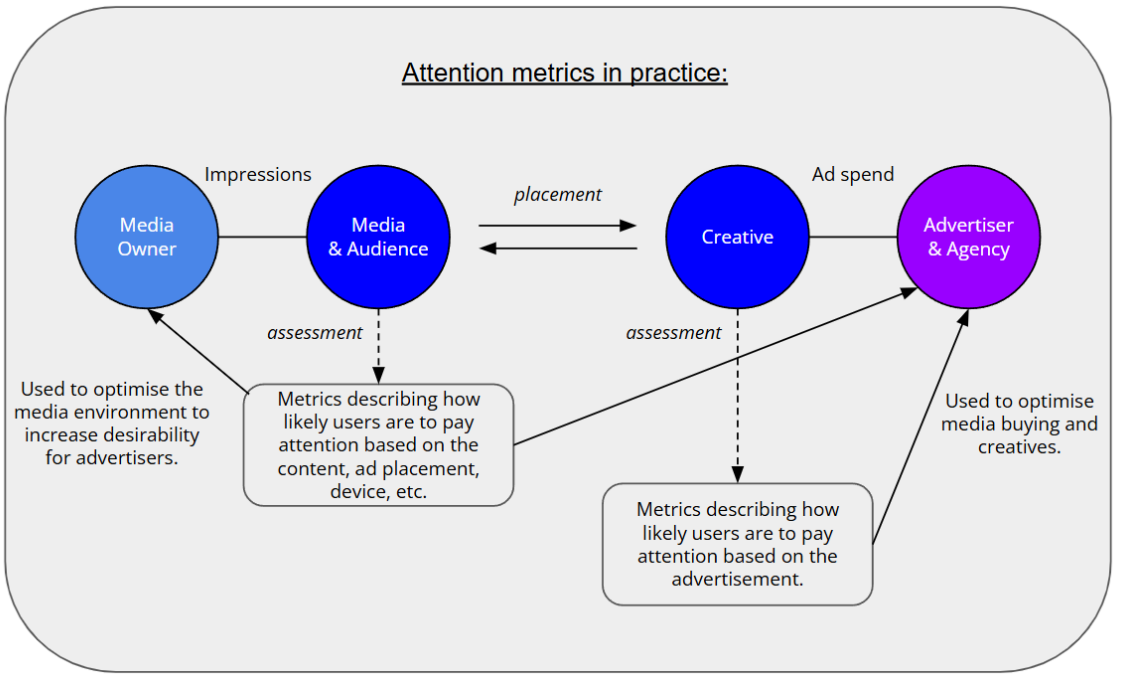
Attention metrics can be applied in various ways across digital advertising. These applications can be divided in three categories:

1. **Optimising creative for attention**, i.e. brands and agencies assessing whether their advertisement is receiving more or less attention than is typical for that format and/or adjusting advertisements to maximise the level of attention against expectations for that particular format using methods such as dynamic creative optimisation or A/B testing. Attention metrics can also be used in conjunction with audience targeting to evaluate which creative resonates best with each audience.

2. **Optimising media environment for attention**, i.e. brands and agencies assessing and optimising for the factors that drive attentiveness relating to the media environment in which an advertisement appears. These factors can include positioning, duration, page velocity, audibility, context, clutter, device, and more. Attention influences media planning and buying through methods as simple as inclusion lists of premium media environments where users tend to be more attentive and as complicated as custom bidding algorithms that rely on attention signals. Due to how media planning and buying is influenced by attention metrics, media owners are also incentivised to increase the level of attentiveness across their properties so as to access demand that is biased for attention by adjusting both content and ad placements.

3. **Optimising format/placement for attention**, i.e. brands and agencies increasingly evaluating which formats and placements generate the highest levels of attention. This might involve assessing different media partners for high-impact formats or comparing placement types. For example, a pre-roll video shown before long-form content that users actively seek out is likely to capture significantly more attention than pre-roll on a site where the video shrinks to a small player in the corner of a mobile screen as the user scrolls down the page. Similarly, an in-feed video embedded in text content will drive a completely different attention profile. This category can also be seen as a subset of optimising the media environment for attention.

Figure 1: How Attention Metrics Influence Digital Advertising

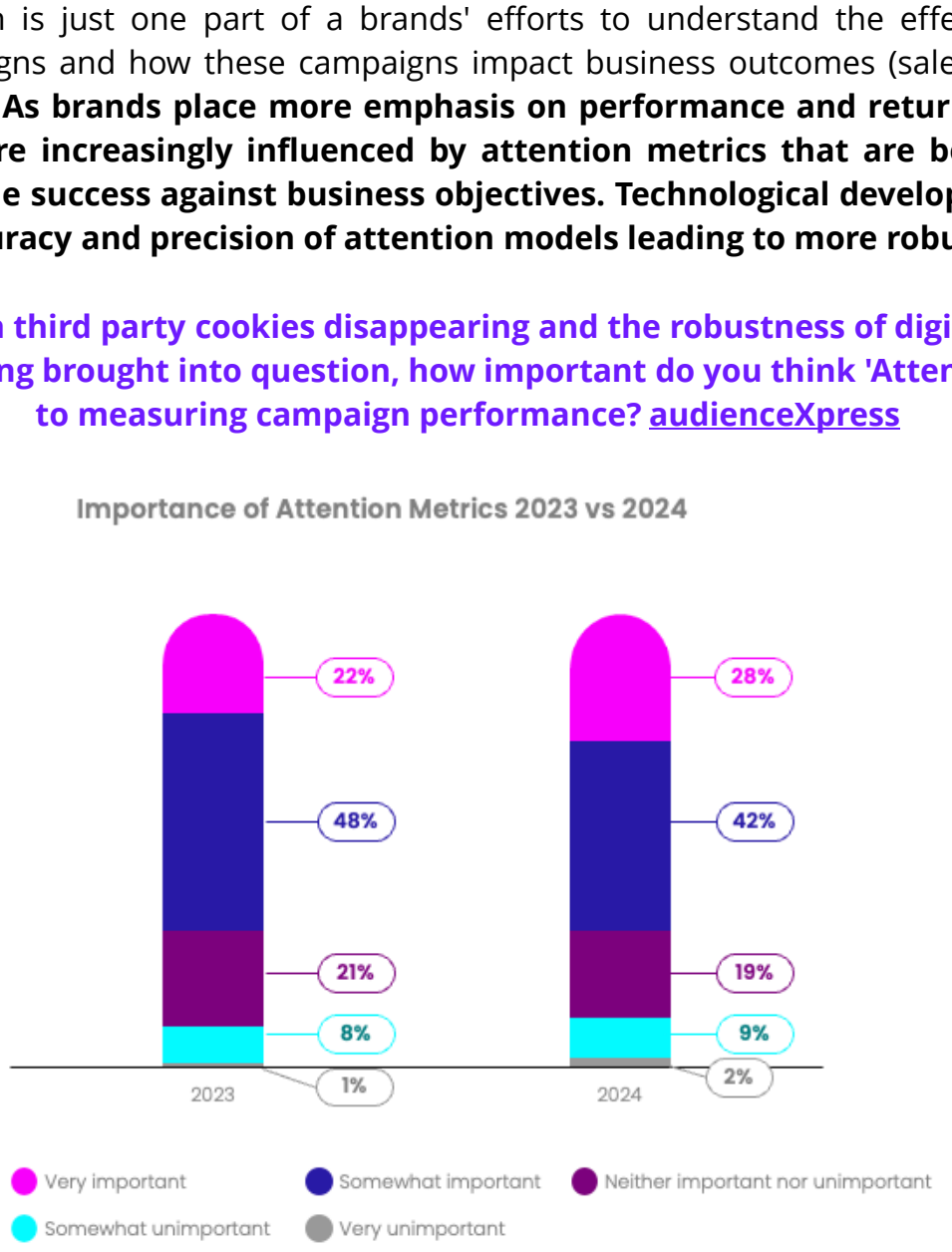


Why is Attention Relevant?

Interest in attention metrics comes as consumers' attention levels fall sharply. The Associated Press recently reported that the average person now focuses on a single screen for just **47 seconds**, down from roughly **2.5 minutes** in 2004. Furthermore, while there is no conclusive evidence on how many ads the average person is exposed to every day, research puts the figure in the hundreds to thousands range across channels. Measuring attention and its impact on advertising is vital for maximising effectiveness in today's attention-scarce environment and ensuring a campaign is cutting through the noise to deliver its message.

Assessing attention is just one part of a brands' efforts to understand the effectiveness of their advertising campaigns and how these campaigns impact business outcomes (sales uplift, increased brand equity, etc.). **As brands place more emphasis on performance and return on investment, their strategies are increasingly influenced by attention metrics that are believed to better predict measurable success against business objectives. Technological developments have also improved the accuracy and precision of attention models leading to more robust signals.**

Figure 2: With third party cookies disappearing and the robustness of digital audience measurement being brought into question, how important do you think 'Attention' metrics are to measuring campaign performance? audienceXpress



In a report on the ad attention landscape, IAB Australia highlighted three drivers behind increased interest in assessing attention:

- The need for CMOs and CFOs to be more analytical when assessing the impact of marketing investments;
- The proliferation of ad formats and media environments making it harder to compare on other widely used inputs (e.g. impressions);
- The development of new or improved ways of measuring attention.

The Relationship Between Attention and Viewability

Attention metrics do not replace viewability as much as they build upon it - as stated above, viewability is a prerequisite for attention measurement. Viewability can be described as assessing whether there is an opportunity for an ad to be seen, whereas attention metrics focus on the impact that an ad being seen has on the consumer.

The prominence of attention metrics lies in the fact viewability alone is often insufficient for optimising media planning and buying - ads that meet viewability standards are often not actually viewed as illustrated by data below from *Dentsu's Unlocking the Currency of Attention* **report**. Conversely, many ads, especially those that tend to be in-feed and on mobile, can be noticed without being considered viewable. 81% of desktop ads considered 'viewable' are actually unseen and 25% of social mobile ads deemed 'unviewable' are actually seen. In certain contexts, an example being lower-funnel performance campaigns, ads that do not meet viewability requirements may still drive outcomes.

How Does Attention Work in Practice?

Methods of evaluating attention can be split into two categories:

1. **Deterministic attention methods** quantify user focus by directly logging observable, impression-level signals such as viewable time, share of screen, interaction duration and scroll speed, often supplemented by hardware- or panel-based eye-tracking or facial-coding studies. These "census" signals are captured via tags, SDKs or server-to-server calls and provide a verifiable, one-to-one record of what actually happened across each creative exposure, allowing precise optimisation against concrete events. Because they rely on hard data rather than statistical inference, deterministic approaches give planners confidence in their granularity and auditability, but they can be costly to deploy at scale across every environment and may miss latent factors such as emotional resonance that are harder to instrument.

2. **Probabilistic attention methods** estimate the likelihood that an impression secured meaningful attention by modelling large volumes of contextual, creative and outcome data with machine-learning or statistical algorithms. Vendors train these models on calibrated panels (e.g., eye-tracking or facial-coding users) and then score each auctioned impression with a probability or index that blends media-quality signals (ad position, clutter, viewability) with downstream performance data to predict attention and business impact. This inference-based strategy scales easily across channels and enables pre-bid optimisation, but its outputs are confidence intervals rather than certainties, and accuracy hinges on the representativeness of the training panel and the integrity of the modelling assumptions, making validation and transparency critical counterbalances.

While both types of methods are commonly referred to as attention measurement in the digital advertising ecosystem, it is important to distinguish between them and highlight the difference in terms of reliance on statistical inference versus direct observation. Many solutions that evaluate attention will combine deterministic and probabilistic methods. For example, a measurement stack that relies on impression-level tagging to record deterministic signals and create a census-grade event chronology could include a probabilistic layer relying on panel data that predicts attention in real time for the purpose of optimising media plans.

How Does Attention Work in Practice?

Table 1: Data Used in Attention Measurement

Category	Signals	Method	Example Metrics
Deterministic census	Viewable time-in view, ad-to-content ratio, share-of-screen, scroll velocity, audibility status, cursor hover-clicks, orientation changes, player control interaction, device type, media context	Direct observation of the entire population of impressions using JavaScript tags, server-to-server beacons, SDKs, etc.	Active seconds-in-view, audible-and-visible seconds, scroll-adjusted dwell time.
Deterministic sensor-based panels	Gaze fixations, saccades, head pose, facial expression, ambient audio focus	Sensors such as eye-tracking cameras, room cameras, microphones, methods such as computer vision for facial coding	Attentive seconds, heat maps, emotional valence curves
Physiological and neurological observation	Heart-rate variability, skin-conductance, pupil dilation, EEG alpha asymmetry	Wearable electrocardiogram or galvanic skin response sensors, eye-trackers with pupillometry, electroencephalography caps	Arousal peaks, cognitive-load scores, sustained-attention indices
Probabilistic modelled scores	Contextual and creative features, historical outcome data, deterministic logs	Inference from machine learning models trained on panel data based on metadata in real time	Predicted attentive seconds per mille, attention likelihood
Survey / self-reported follow-up	Ad recall, brand favourability, purchase intent	Online questionnaires, brand-lift studies	% recalled, lift vs. control

How Does Attention Work in Practice?

Table 2: Strengths and Limitations of Different Methods

Category	Strengths	Limitations
Deterministic census	• Scalable and consistent across all impressions (census-grade) • Audit-friendly and privacy-compliant, cookieless design	• Cannot confirm actual gaze or cognitive engagement • May misinterpret passive or unintentional exposures as meaningful
Deterministic sensor-based panels	• Directly observes eyes-on-screen and presence • Provides granular data on visual attention patterns	• Sample-based (not census), requiring extrapolation • Difficult to deploy in privacy-sensitive or closed environments (e.g. CTV apps)
Physiological and neurological observation	• Captures subconscious and emotional responses • Offers deep insight into engagement intensity and arousal	• Expensive, intrusive, and restricted to lab settings • Difficult to scale or apply in real-time optimisation
Probabilistic modelled scores	• Enables real-time scoring at scale using contextual signals • Useful for pre-bid targeting and cross-channel consistency	• Relies on training data and assumptions that may not generalise • Lack of transparency and difficulty validating against observed outcomes
Survey / self-reported follow-up	• Connects attention to brand outcomes (recall, favourability, intent) • Helps measure cognitive and emotional impact post-exposure	• Subject to recall bias and inconsistent self-reporting • Cannot be used for in-flight optimisation or granular attribution

Comparing Biometric Measures

A 2024 **study** published in the International Journal of Advertising highlighted the importance of optimising attention experiments and ensuring that the most reliable metrics are used in panels. Using brainwave measures as a benchmark, the researchers from the Ehrenberg-Bass Institute, University of South Australia found that heart rate was the most accurate proxy for attention, while eye-tracking alone was likely to overestimate attention. The authors argue that "conscious attention" (which self-reports and heart-rate changes can capture) is crucial for ad impact, whereas passive gaze (eyes on screen) doesn't always equate to attention.

Attention in Closed Environments

Attention solutions for closed environments (e.g. platforms) operate differently from open web environments because they lack universal tagging, third-party measurement access, and often run on proprietary software stacks that restrict external instrumentation. In these contexts, attention data is typically captured either through native telemetry provided by the platform owner or through embedded SDKs negotiated through direct integrations. This setup limits the range of observable signals, leading to standard metrics like scroll velocity or cursor activity often being unavailable. Instead, the focus is on variables such as pause/play behaviour, time-in-view, or app-level engagement proxies.

Furthermore, because closed systems do not expose impression-level identifiers in the same way as open environments, attention measurement often relies on aggregate-level probabilistic modelling or sandboxed panels recruited from within the platform's ecosystem. As a result, while closed-environment measurement can offer strong consistency within the environment, it tends to be less transparent, less independently verifiable, and harder to harmonise with cross-channel frameworks that rely on open measurement standards.

Attention and Media Product Development

Attention is increasingly shaping the development of media products by shifting the focus from maximising impressions to designing experiences that sustain cognitive engagement. Publishers and platforms are rethinking formats, placements, and interface behaviours to optimise for attention metrics such as active time-in-view, gaze duration, or scroll-adjusted exposure. This shift has prompted the adoption of ad layouts with fewer but more prominent slots, user-triggered ad reveals, and native integrations that align more naturally with content consumption flows. Editorial and product teams are also leveraging attention data to guide decisions about content density, loading behaviour, and even recommendation algorithms, prioritising formats that command higher quality attention rather than sheer volume. As advertisers adopt attention-based currencies for buying and optimisation, media owners are under pressure to demonstrate that their environments can consistently generate measurable, high-value attention, leading to a product roadmap increasingly aligned with human perception and behaviour rather than just page mechanics.

Furthermore, academic studies have leveraged attention measurement to unpack the relationship between different types of media and ad effectiveness. A **2023 paper** by researchers from Columbia University and Imperial College London, based on an online experiment using eye-tracking technology, found a positive correlation between the amount of attention readers pay to news articles and brand recall and purchase probability. Notably, the study found that "hard" news, i.e. "news that is thought to be potentially sensitive and upsetting to some readers" does not detectably impact ad effectiveness, casting doubt at media buying strategies that avoid such content and publishers' propensity to invest less in it.

Comparing Between Different Methods

When looking to measure attention for the first time, it may be tempting to take a deep dive into a number of measurement partners to select which is best suited for an advertiser's or agency's needs. However, it may not always be necessary to have a deep understanding of their methodologies. It can instead be more beneficial to focus on testing and verifying that the measurement is correlating with desired outcomes, in terms of either brand metrics or business outcomes.

Opportunities and Challenges of Attention

Attention measurement has a role to play across the entire end-to-end journey of an advertising campaign. At the aggregate level, attention data can guide media planning, helping advertisers understand where audiences are most engaged and which environments are likely to deliver stronger business outcomes. This kind of insight is also valuable in partner selection, offering a clearer picture of which publishers or platforms can provide the most effective contexts for capturing attention. Some attention measurement partners have developed tools to assist with this attention-based planning, although a longer-term strategy for planners and agencies may be to integrate the data into existing planning tools.

At a more granular level, attention metrics can be applied in real time to optimise campaign delivery. For example, within programmatic buying, advertisers can prioritise impressions that are most likely to generate meaningful engagement. Similarly, granular data can inform creative testing and iteration, enabling brands to refine messaging, formats, and placements with precision. Attention measurement can be relevant across both strategic planning and tactical execution, offering a bridge between long-term effectiveness and short-term efficiency.

Attention measurement opens several avenues for advertisers to enhance performance. Linking attention signals to business outcomes helps reduce waste by avoiding investment in impressions that fail to advance campaign objectives. When used effectively, these insights unlock the full potential of creative work, providing a feedback loop that shows not just whether an ad was served, but whether it held consumer focus long enough to make an impact. Attention metrics also enable optimisation across channels and devices, ensuring investment flows to the combinations that generate the highest quality engagement. Ultimately, the opportunity lies in reshaping advertising from a model built around visibility to one centred on effectiveness.

Despite its potential, attention measurement faces significant challenges. One of the most pressing is the lack of consistency across vendors: methodologies differ widely, and not all partners even attempt to quantify attention. This fragmentation creates difficulties in comparing results and limits the ability to apply attention data at scale. Advertisers are often left navigating a patchwork of incompatible metrics, undermining the promise of a unified framework for optimisation.

Beyond methodological inconsistencies, there are practical issues. Gaps in data remain, particularly in environments where direct measurement is difficult, and the complexity of capturing attention signals can add operational overhead. Costs are another factor, as investment in attention solutions must be justified against tighter budgets. At the same time, expectations are high: advertisers want attention metrics to act as a definitive predictor of outcomes, which risks disappointment if results are not immediate or uniform. Finally, attention itself is a scarce commodity—consumers divide their focus across multiple screens and distractions—which makes capturing and sustaining it even more challenging.

Navigating Attention

To unlock the full value of attention measurement, advertisers should approach it as both a strategic and practical tool. A strong first step is to understand how metrics are constructed, and whether they represent directly observed signals or modelled proxies. Clarity on these differences allows advertisers to interpret results with confidence, and consistency across partners makes it possible to compare performance fairly across channels, publishers, and markets. Pushing for transparency from vendors ensures that attention data becomes a reliable input into decision-making rather than a black box.

Attention delivers its greatest value when it is clearly linked to outcomes. Treating it as an indicator of effectiveness helps advertisers optimise not only where they invest but how. This means assessing attention holistically: the quality of the creative, the relevance of the message, and the context in which it appears all shape whether audiences meaningfully engage. By integrating attention metrics into broader frameworks alongside reach, frequency, and viewability, advertisers can connect the dots between exposure, engagement, and results.

When planning and optimising towards attention metrics, it is important to note that striving for maximum attention may not always be the ideal strategy. Research by various attention measurement partners and agencies indicates that for any given campaign there will be a minimum threshold of attention that is required to achieve the campaign's desired outcome. Buyers optimising for a significantly higher level of attention may face decreasing marginal returns in terms of campaign performance and increased marginal costs of attention. Therefore, it could be more cost efficient to aim to achieve the desired level of attention for a campaign rather than the maximum attention possible. This desired threshold will differ depending on a number of variables such as how well known the brand is, the creative used, the desired outcome of the campaign, and the targeted audience.

Finally, attention should be embraced as a dynamic and evolving discipline. The best way to make progress is to remain flexible, test new approaches, and refine how insights are applied. By treating attention as a practical lever that guides planning, sharpens creative, and optimises execution, advertisers can move beyond simply measuring whether ads are seen to ensuring they truly resonate.

Attention Standards

The IAB and the Media Rating Council (MRC) have released draft **Attention Measurement Guidelines** to bring structure and consistency to the fragmented field of attention. Much as viewability standards helped create a baseline for judging whether ads could be seen, these guidelines aim to provide a common framework for defining, measuring, and reporting attention across digital media. They are the first step toward an industry standard that can support comparability, transparency, and ultimately accreditation of attention measurement providers.

The draft guidelines set out four principal methodological approaches for capturing attention ranging from data signals and modelling through to observation and survey techniques. They also highlight the factors that influence attention, such as placement, creative, and context, and call for vendors to be transparent about their assumptions, limitations, and reporting practices. Importantly, the guidelines position attention not as a replacement for delivery or outcome metrics, but as a complementary layer that enriches existing measures. As they move through consultation, these standards are expected to shape how attention is used and valued across the ecosystem.

Case Studies

The case studies below highlight the opportunities tied to attention and explore the relationship between attention and campaign success.

Table 3: Attention Case Studies

Relevance	Key Points	Vendor
Correlating attention and business outcomes	• Impression-level attention metrics linked to live purchase data. • Strong correlation between attention index and conversions.	DoubleVerify
Attention in PMPs with commerce media inventory	• 32% lower CPMs, 8x higher conversion rate for a US telco brand. • 19% longer average view time, 22% higher campaign performance for a North American quick service food chain aiming for higher completion rates.	Lumen, Criteo
The optimal level of attention	• The required attention threshold depends on the desired brand outcome, from 1.4 seconds for a 10% lift in brand awareness at the top of the funnel to 3.6 seconds for prompted recall. • In 94% of analysed ads, the level of attention depended more heavily on the creative than it did on the media environment.	playground xyz
Impact of attention-optimised buying	• A / B test for a global auto brand with the goal of surpassing industry benchmarks on attention. • 124% increase in attention index alongside a 340% increase in click-through rate and a 40% decrease in CPMs.	DoubleVerify, Scibids AI
Linking attention and viewability	• 11.5x increase in attention scores for in-view ads compared to out-of-view ads. • 3x increase in success events with higher attention scores. • 70% lower cost per success event with higher attention scores.	IAS, Lumen
Attention and carbon footprint	• Media scoring higher on attention metrics delivered 37% lower emissions per conversion against media scoring lower.	Adelaide, Scope3
Attention in CTV	• Attention varies significantly across programmes even within dayparts. • Brands that focus on media scoring high on attention can achieve the same brand awareness results with 3x more cost efficiency.	TVision
Attention used to analyse performance	• Ads that scored high on the attention index had 2.5x higher qualified traffic and conversion rates.	DoubleVerify

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