

5. Audience, Data, and Measurement

Previous chapters documented the media planning process which involves selecting *where* to advertise and *when* to use specific media vehicles (the right timing) to deliver a message in order to reach and engage a target audience.

This chapter will focus on audience, data, and measurement, including different methods of collecting, analyzing, and utilizing audience data. It examines Key Performance Indicators (KPIs) and metrics such as reach, frequency, and engagement, and also highlights the importance of verification data in validating these metrics.

5.1 Introduction: The Centrality of Data

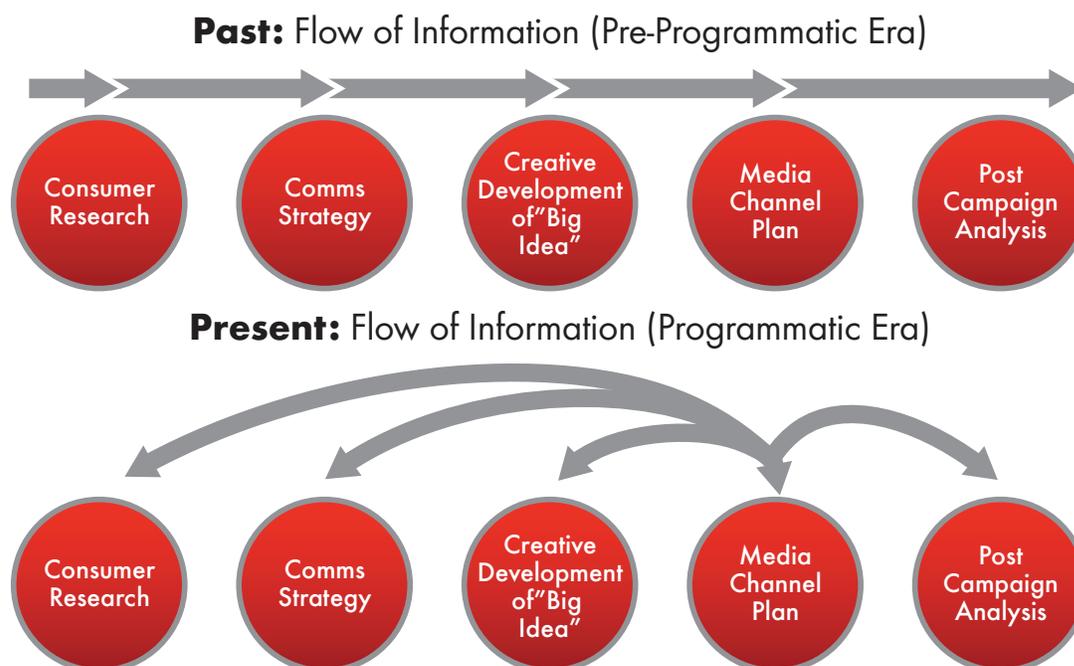
In the “Mad Men” era of advertising, data flowed in a linear and highly front-loaded process. Data on how to effectively reach a particular target audience was based on research about the target consumer, then passed to a communications’ strategy team within an agency. From there it was sent to a creative agency to devise the “big idea,” which in turn informed the media plan and campaign.

In today’s world, decision-making is based upon a much more decentralized flow of data, originating in the media platform and going to various teams in no particular order.

Such data informs all steps in the advertising process, and includes:

- Age, gender, and behavioral characteristics
- Geo, time of day, day of week analysis
- Media consumption patterns
- Devices, content, context
- Path to conversion analysis
- Recency/frequency analysis
- Copy/imagery efficacy
- Sequential messaging analysis
- Audience segments²⁰

➤ Past and Present Flow of Information



Source: IAB Programmatic Video

²⁰ Audience segments are subsets of user data signifying specific facts, interests and other attributes. Audience segments, and the techniques employed to create and use them, are becoming more complex as real-time algorithmic scoring and mobile devices increase both the quantity and variety of input data.

These ever-evolving techniques and technologies are enhancing opportunities for accurate campaign targeting and measurement to improve both advertiser ROI and publisher yields.

Key Performance Indicators (KPIs) and post-campaign analysis rely on data. Media platforms must source data points against contextual, geographic, device, browser, time of day, day of week, and reach/frequency signals for marketers to confirm positive return on investment (ROI) and accurate measurement.

Additional information on this section can be found in [“IAB Programmatic Video: A Spectrum of Automation.”](#)

5.2 Common Video Key Performance Indicator (KPI) Metrics

Unlike other formats, video advertising as a branding format, shouldn't be solely assessed by performance metrics such as clicks (CTR), but rather, the users' engagement and attention throughout streamed content. The most common KPIs (Key Performance Indicators), or metrics identified as a core means of tracking performance, may include impressions, completion rate, viewable completed rate, completed view, reach & frequency, total unduplicated reach, brand lift, engagement, and attention.

The initial delivery of a **video ad impression** is typically a core metric and a minimum input or precursor to viewability measurement and metrics. As defined in the version 1.1 draft of the IAB / MRC Digital Video Impression Measurement Guidelines (currently in public comment) “Digital Video Ads” which appear before (pre-roll), during (mid-roll), and after (post-roll) content, are counted as the “measurement of responses from an ad delivery system to an ad request from the user's browser, which is filtered for invalid traffic and is recorded at a point as late as possible in the process of delivery of the creative material to the user's browser. The ad must be loaded and at minimum begin to render in order to count it as a valid ad impression.”

KPIs are measurable performance metrics that allow marketers and agencies to work towards a common goal. A campaign can be sold against a number of KPIs. In TV, the most common KPIs are achieving a certain Gross Rating Point (GRP), reach, or frequency. In digital video advertising, the abundance of data allows campaigns to measure a wider variety of KPIs, including a specific target audience, verified ratings delivery, viewability rates, and/or other criteria. Brand advertisers also need brand and sales metrics such as brand awareness, brand consideration, and offline sales to be available to them.

5.2.1 KPIs vs. Secondary/Tertiary Metrics

Today's technology allows us to slice and dice data in many ways. Video campaigns are typically measured by selecting various KPIs usually staggered by priority. If using a platform, the machine learning algorithm will optimize the campaign according to the primary KPI first and then apply logic for the subsequent ones. If the campaign is not pacing for delivery, the account manager can tweak certain levers in the platform to relax certain parameters in order to achieve the desired outcome.

Reach & Frequency

Reach and frequency are terms generally used when planning and analyzing advertising campaigns; along with GRP, they are the two most commonly used metrics to assess TV advertising effectiveness. Understanding these metrics will help you achieve your short- and long-term advertising goals.

Reach is the percentage of targets who are exposed to your media at least once during a predetermined period of time. To properly determine reach, you need to define who your target audience is. Reach isn't a percentage of total customers, but rather a percentage of a specified audience. For example, you may want to reach car owners in a particular metropolitan area or within a certain demographic. You will determine how many people you want to connect to within this audience and calculate the reach of your campaign as a percentage of that. Measuring audience reach quantifies the number of people that visit a site—either directly or indirectly. These measurements are called “uniques” and play an important role in marketing and decision-making.

The [IAB Audience Reach Measurement Guidelines](#) help to ensure companies audited for audience reach measurement are transparent and accountable especially as brands allocate more budget to online advertising.



To find out more about measurement of audience in browser or browser-equivalent based internet activity including any emerging technology that uses HTTP, please refer to the [IAB Audience Reach Measurement Guidelines](#).

Evaluating Frequency

Frequency is the average number of times a household/uniques/users are exposed to your campaign over a set period of time. The real trick lies in understanding your campaign's "optimal frequency" to achieve maximum effectiveness. In academic circles, the process for evaluating this is known as "frequency value planning."

How Much is Enough in Ad Frequency? More than you think...

How Much is Enough in Ad Frequency? More than you think...

Increasing the frequency of exposure to online video ads can lead to stronger growth in brand awareness and consideration. Using Kantar Millward Brown's MarketNorms® database, an analysis was conducted on almost 2,000 video advertising campaigns to understand the relationship between frequency and awareness and persuasion metrics.

	<p>Think Minimums not Maximums</p>	<p>For most metrics, incremental exposures lead to higher results, thus think about frequency minimums required as opposed to maximums</p>
	<p>5+ Exposures for Optimal Messaging</p>	<p>Message association peaks at five to seven exposures</p>
	<p>9+ Exposures to Drive Persuasion Metrics</p>	<p>Purchase intent and brand favorability averages are highest at 9+ exposures</p>
	<p>30 Second Ads Can Drive Purchase Intent</p>	<p>For campaigns that have a minimum of eight exposures, data shows 30-second ads generate higher purchase intent scores than 15-second ones</p>

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KANTAR MILLWARD BROWN **YuMe**

YuMe recently partnered with Kantar Millward Brown to understand the relationship between frequency, awareness, and persuasion metrics in video. According to their study:

- Regardless of frequency, video ad exposure leads to increases across all brand metrics (aided awareness, message association, brand favorability & purchase intent).
- While one video exposure is sufficient to trigger increases across all awareness metrics, multiple exposures garner higher awareness scores.
- Lower funnel metrics benefit most significantly after 8+ exposures.
- Strongest gains emerge at 8+ exposures for 30 second ads and 15 second ads. 15 second ads showed incremental growth in performance with increased exposures.
- For vertical videos purchase intent is increased by more exposures (8+).

Frequency Versus Reach: Which Matters Most?

Both reach and frequency are important to consider throughout the lifecycle of your campaign. The value you place on these metrics, however, depends on your goals and your product's buying cycle.

Reach should be a high priority with a new campaign. If you're promoting new products, packaging, or distribution, then reach is where you want to focus. Concentrating on reach is also more effective with a broad demographic.

Frequency is a more important metric when facing stiff competition. When you're struggling to establish yourself as an industry leader with your targeted audience, frequency is your primary focus. Frequency is most important for a narrowly defined audience within a very specific demographic.

Total Unduplicated Reach & Frequency (TURF) Analysis

TURF refers to Total Unduplicated Reach & Frequency, a technique that allows you to assess which combination of ad campaigns will allow you to appeal to the greatest number of customers. It takes a step further than frequency analysis, which defines how often a user is exposed to an ad, or number of people it reached.

Several companies in the space provide multi-platform reach and frequency services that deliver an unduplicated view of audience scale, ad frequency, and costs associated with a single, multi-platform campaign.

5.2.2 Engagement/Attention

[Engagement metrics](#) for digital video can vary based on type of ad, device, campaign goal and advertising category. It is not a single concept, but a spectrum of interconnected dynamics that will ultimately have a positive impact on the consumer-brand connection.

Engagement assumes active participation, but does not necessarily require an action; engagement may describe a cognitive or emotional connection, in addition to or instead of a physical one. Although it is assumed to be a prerequisite to advertising effectiveness, it does not, in and of itself, always result in tangible, immediate effectiveness. This definition communicates that engagement is a "push/pull" process. The "push" is the advertising itself, dependent on both the media platform and, critically, the creative execution and brand storytelling. The "pull" is the consumer who is aware of, spending time with, and internalizing that advertising.

Engagement can include any of the following:

- Ad/Campaign Awareness
- Brand Message Recall
- Attribute Recall
- Change in Message/Attribute Recall and Association

[The Media Ratings Council \(MRC\)](#) is currently engaged in iterating through the final phases of [3MS \(Making Measurement Make Sense\)](#) including drafting Engagement Standards. Such efforts will leverage the existing research such as the IAB Engagement whitepaper: [Defining and Measuring Digital Ad Engagement in a Cross-Platform World](#).

Completion Rate/Completed Views

A critical function of the video player, when requesting and displaying VAST ads from ad servers, is to send tracking information back to the ad server(s) exactly as specified in the VAST document. Failure to send accurate tracking data renders inconsistent results between the video player and ad server counts.

"Complete" is a tracking event type in the VAST standard that signifies the creative was played to the end at normal speed ensuring 100% of the creative was played.

When the video player detects that a completion event occurs, the video player is required to trigger the tracking Uniform Resource Identifier²¹ (URI) provided in the VAST tag. When the server receives this request, it records the event and the time it occurred.

Completion rate is a more widely used measurement of consumer attention and interest in a brand's message. For more information please refer to IAB [VAST 4.0](#) and eMarketer's [Quantifying Digital Brand Ad Effectiveness](#).

Brand Lift, Awareness, Purchase Intent

Brand Lift refers to an increase in a user's interaction with a particular brand as a result of an ad campaign. It is the measurable difference in a specific KPI metric over a set period of time. [Brand awareness](#) measures whether a consumer is familiar with a brand.

Brand awareness studies enable advertisers to benchmark and track the effects of an advertising campaign on the percentage of the audience that is aware of the advertised brand and ad campaign. Brand awareness measurements can be segmented into aided or unaided, whether mentioned in a set position (e.g. top three) or influenced by survey methodology. Differences in pre- and post-metrics should be significance tested, ideally at a 95 percent confidence interval. For recall, the time between exposure and the survey should be noted, i.e. immediately after exposure, within one hour, same day, etc. Note that high brand awareness is not always a positive outcome, as consumers can be aware of a brand, but have a negative opinion of it, due to scandal or negative news stories, e.g. Exxon Valdez oil spill, Tylenol scare, etc.

Brand lift surveys will usually measure the pre-post delta (change) in brand awareness, purchase intent, consideration, favorability, perception, and recall.

Brand lift surveys allow marketers to quantify the behavioral impact of their digital ad campaigns on brand measures such as purchase consideration and favorability. These surveys can be deployed directly within a digital video player, a companion banner on a website or within an online consumer panel. Brand lift surveys ask a standard set of questions aimed at measuring ad recall, brand awareness, message association, purchase consideration, and brand favorability. These measurements allow for pre- and post-campaign analysis that will indicate brand lift.

[Brand lift](#) could include a quantifiable positive change in message and attribute association; change in brand recognition or familiarity; and change in purchase consideration. Brand lift could also include a quantifiable positive change in brand perception, favorability, and loyalty.

[MRC](#) is currently engaged in iterating the Ad Effectiveness Standards as the final phase of [3MS](#).²² To learn about the mission of Making Measurement Make Sense (3MS), read this [3MS primer](#) on this important industry initiative.

CTR

- CTR ("click-through rate") is the percentage of users who clicked an ad relative to the total number of users who were exposed to the ad. CTR is calculated as clicks divided by impressions.
- "Click" or "click-through" is a user-initiated action on an ad element, usually causing an HTTP 302 redirect to another web location. This thereby transfers the user from a publisher site to an advertiser site. Additionally, internet-based search activity or shopping activity can lead to click-through transactions on search results or other content sites that display ad impressions. This can similarly result in redirects to other web locations, such as an advertiser site.
- When measuring clicks, the actions should be filtered to account for invalid traffic and click activity in accordance with the provisions of the guidelines linked above.

²¹ A URI is a string of characters used to identify a resource. Such identification enables interaction with representations of the resource over a network using specific protocols. Schemes specifying a concrete syntax and associated protocols define each URI. The most common form of URI is the Uniform Resource Locator (URL), frequently referred to informally as a web address.

²² Making Measurement Make Sense (3MS) is a cross-industry initiative founded by the American Association of Advertising Agencies (4A's), the Association of National Advertisers (ANA), and Interactive Advertising Bureau (IAB). The Media Rating Council (MRC), an independent body, is responsible for setting and implementing measurement standards.

- [Video click-through](#) occurs when a user clicks a pre-roll, mid-roll, or post-roll ad that plays within an online video.

MRC's effort along with the modernizing measurement task force (MMTF) are updating the existing [IAB Click Measurement Guidelines](#). IAB members interested in participating in this task force may contact techlab@iabtechlab.com.

5.3 The Role of Data to Validate KPI Metrics

Data plays an integral role in validating the objectives set for the campaign and advertising effectiveness. According to the [2016 IAB NewFronts Video Ad Spend Report](#), advertisers use multiple data sources to optimize their digital video buys.

Viewability and verification are two metrics that are widely adopted in the video advertisement space. For digital ads to make an impact, they have to be viewed, not just served, by a human being in an advertisement safe environment.

As digital advertising becomes more sophisticated, advertisers want to not only prove ROI, they also want to transact on viewability. In addition, it's more important than ever to ensure your advertising appears alongside content that is brand safe and free of fraud.

5.3.1 Viewability

A [viewable video impression](#) is a desktop video ad or mobile video ad where there's an opportunity to see an ad, if fifty percent or more of the ad is visible for two seconds or more. See the [list of MRC accredited vendors for viewable video ad impressions](#) as well as the [MRC's Digital Landscape Chart](#).

According to the latest report from [IAS Viewability: The Essentials](#), an ad would not be viewable for the following possible reasons:

- Ad loads in an area outside of the consumer's browser
- Multiple ads are stacked on top of each other (ad stacking)
- Multiple ads are stuffed within the same pixel (pixel stuffing)
- Pages are frequently refreshed

From a consumer point of view, IAS research indicates that an ad would not be viewable due to the following reasons:

1. A consumer takes an action before the ad can load
2. Takes an action before the minimum requirement is met
3. Minimizes browser
4. Opens multiple tabs, and the ad is displayed in a tab that's not currently open
5. Isn't a real person





In December 2016, IAS surveyed over 1,000 digital advertising professionals across ad tech companies, agencies, brands, and publishers, about 2016 trends and where they see digital advertising heading in 2017.²³ Viewability and ad fraud were the two most important aspects in media qualities for both publishers and agencies.

5.3.2 Verification (Brand Safety, Fraud)

Ad verification is a process which attempts to verify that one or more attributes of a served online ad have been executed in a manner consistent with the terms specified by the advertiser or agency and agreed to as part of the ad campaign terms.

Ad Verification is often leveraged for brand safety. The goal of brand safety is to ensure an ad will not appear in a context that can damage the advertiser's brand, minimizing the risk of media delivery against placements that have been deemed questionable or off-brand. Advertisers have defined two types of content that fall under brand safety: objectionable content such as adult content, and content that falls under the specific brands or legal criteria (i.e. natural disasters, opinion content, competitors, etc.).

Five primary service lines of ad verification include: site context, geo-targeting, ad placement, competitive separation, and fraud detection. **MRC accredited vendors** for safety/ verification features include: IAS, Double Verify, comScore. These vendors are MRC accredited based on **IAB ad verification guidelines**.

5.4 Audience Measurement Methods/Types

5.4.1 Deterministic & Probabilistic Approaches

Early measurement systems revolved around desktop browser functionality where, at the time, media consumption largely took place on personal or family computers. Cookies were the primary markers to determine when a person was exposed to pay messaging and if a person engaged with the ad unit in a specific way, as well as the events that took place along the path to conversion within a specific campaign.

As media consumption began to fragment across mobile, tablet, and OTT TV platforms, the lack of cookie support within these devices forced industry participants to find new techniques for identifying when the same user saw campaign messaging across different devices and channels. The resulting approach—known as user level device mapping—attempts to assemble an individual consumer's device graph, largely based on the likelihood that seemingly disparate devices are being used by the same individual. Device graphs are now seen as a necessary foundation for a holistic view of message delivery within a modern, omni-channel digital media campaign.

Device graphs are generally built and maintained by third party analytics organizations that rely on two distinct approaches: probabilistic methods and deterministic methods. Challenges with both approaches are testing accuracy against a consistent baseline and controlling for errors.



The following is drawn from the **Digital Attribution Primer 2.0** published by IAB in August 2016.

²³ [IAS 2016 year-end survey results](#)

Deterministic approaches: The deterministic method relies on personally identifiable information (PII) to make device matches when a person uses the same persistent identifier—namely an email address, a phone number, or credit card information—when logging into an app or website. When a user logs in at any point across multiple devices, deterministic data providers can associate those device IDs in a device graph and use that information to identify or target the same user across multiple screens with great confidence. Because of the ability to authenticate across devices, deterministic approaches are thought of as the most accurate way to determine user-level device graphs. However, one downside is that this approach cannot control for when other individuals—friends, family, etc.—are using a person’s device. Another is the perceived lack of scale across devices, as there are hard limits to the amount of registration data that companies have contingent upon growing user bases.

Probabilistic approaches: By drawing on aggregation techniques, probabilistic approaches incorporate thousands of anonymous data points—things like device type, operating system, and location data associated with bid requests, time of day, and a host of others—to identify statistically significant correlations between devices. Signals may also be drawn from known multi-user identifiers like IP addresses or from geographic regions. By using IP to Geo technology—which can establish a ZIP code or other geographical coordinates from an IP address—the incorporation of aggregate signals is possible. Based on these signals, probabilistic techniques attempt to determine the devices that are likely being used by the same person. Once this determination is made, that provider would likely assign a particular statistical ID to the device. For example, if a smartphone, desktop computer, and a laptop connect to the same networks or Wi-Fi hotspots at the same time and in the same places every weekday, one can develop a degree of confidence that all three devices belong to a specific person. Probabilistic approaches are generally considered to be less accurate than deterministic approaches when associating device pairings, as they are largely based on inferred and/or modelled data. One benefit is that these solutions have greater flexibility to scale across devices, meaning that device mappings can potentially incorporate more overall consumer devices than deterministic partners.

5.4.2 Data Collectors

The following section is drawn from the [IAB 2016 Data Lexicon Update](#).



The collector of data refers to the entity that gathers and stores the user activity and derived information associated with that activity. Oftentimes the attribute eventually generated from the collected information is derived from multiple different collectors. One of the key principles in defining ownership and control of data is determined by the relationship between the data collector and its user. There are three forms of relationship: first-party, second-party and third-party.

A **“first party”** is an entity that collects information from or about users and is the owner or controller of the website or service with which the user interacts directly. A first party also includes the first party’s “affiliates.”²⁴ Examples: The publisher of a site visited by a user—or an advertiser’s site the user clicks through to. Data collected and used by the site is first-party data.

A **“second party”** is a first party that sells or shares data to a non-affiliated website or service. Given that the rules around data ownership, use and control are governed only in relation to first and third-party definitions, the reason to distinguish a second party from either a first or third party has fallen out of favor. This is because in relation to data collection, it is treated as a first-party and in relation to data sharing it is treated as a third-party.

- Online Example: AOL/Adap.tv sells behavioral segments collected from its own website to monetize traffic on Yahoo!
- Offline Example: Safeway offers discounts on fuel to customers of Chevron to incent users to opt-into rewards program

²⁴ An “affiliate” is an entity that controls, is controlled by, or is under common control with another entity. Control of an entity means that one entity (1) has significant common ownership or operational control over the other, or (2) can exercise a controlling influence over the management or policies of the other entity. In addition, for an entity to be under the control of another—and thus be treated as first party under these Principles—that entity must adhere to online behavioral advertising policies that are not materially inconsistent with the other entity’s policies.

A **“third party”** is an entity that collects information from or about users from a non-affiliate’s website or service. Third-parties, such as data aggregators and ad networks, often create data products that span collection from websites and stores not owned or controlled by a single entity. By aggregating this information, third-parties can offer smaller websites and stores that do not have the technical, data or service resources the ability to compete against large vertically-integrated companies. Information collected by an entity that does not have a direct relationship with a customer.

- Online Example: Google Analytics collects a user’s visit path when visiting a sports website. Oracle/BlueKai collects information from ESPN.com
- Offline Example: Experian collects information about a user’s mortgage from their lending institution

For an in-depth explanation of the process of generating an attribute, or combination of attributes to form a segment, please refer to the [IAB 2016 Data Lexicon Update](#).

According to the IAB [2016 NewFronts Video Ad Spend Report](#), confidence in third-party data accuracy is high, though 8 in 10 agree that an independent measurement audit influences their decision to work with a media brand.