Partnership for Responsible Addressable Media

Priority Business Use Cases - Working Draft

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The Partnership for Responsible Addressable Media

Created in August 2020, **The Partnership for Responsible Addressable Media (PRAM)** is working to ensure consumers and businesses continue to connect responsibly and enjoy the benefits of the digital economy in a safe and effective cross-media environment where privacy is fundamental.

Mission

Develop privacy-preserving principles, standards, and infrastructure for addressable communications between consumers and organizations that safely leverage data to improve campaign optimization and attribution, increase transparency amongst partners, support funding for content and services, and operate across channels.

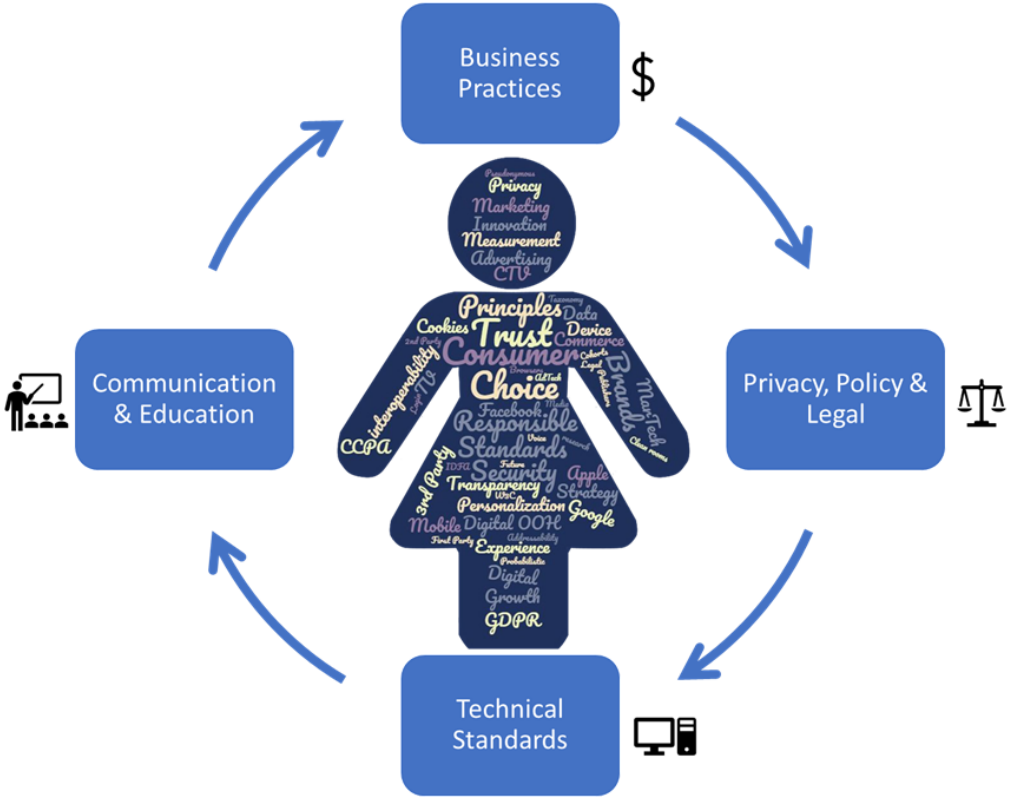
Process

To advance its efforts, the Partnership has convened four working groups of industry stakeholders to shape different elements of the initiative: Business Practices; Technical Standards; Privacy, Policy, and Legal Considerations; and Communications and Education.

The working groups have engaged participants from across the digital advertising ecosystem and around the world to develop consensus-based standards, technologies, and policies.

Business Practices Working Group

This LIVE document is a result of the Business Practices Working Group's objective to share, discuss, debate, and assemble a compendium of priority Addressable Media business use cases to inform the principles and solutions created by the Privacy, Policy, and Legal and Technology Standards Working Groups.



With consumers and privacy top of mind, this team of ~70 uniquely qualified cross-functional experts which included Advertisers, Publishers, Agencies, Platforms, and Data and Technology partners met for 3 hours 4 times over 8 weeks in the Fall of 2020 resulting in 800+ hours of passionate collaboration in creating this LIVE document which is now being shared with a broader industry audience to extend, enhance and make it more representative of the industry vs just those initial participants. It will be updated as often as necessary to meet the needs of our evolving addressable media landscape.

Privacy, Policy, and Legal Working Group

The Privacy, Policy, and Legal Working Group will offer guidance on privacy, legal, policy, and other related areas relevant to developing new standards for addressable communications across the Internet ecosystem.

The Working Group will identify and recommend data privacy, security, and accountability uses and functionalities to be supported by the new addressability solutions. The group will identify areas where the use of

addressability and solutions developed through this effort address privacy considerations. The Working Group will also engage in various channels including legislative and self-regulatory to ensure new addressability solutions are permitted.

Technical Standards Working Group

The Technical Standards Working Group continues the work launched by the IAB Tech Lab through Project Rearc in the spring of 2020. The Working Group is responsible for setting technical standards for a range of addressability solutions to address prioritized business use cases and developing accountability programs to ensure adherence to privacy considerations and addressability standards.

The Technical Standards Working Group includes representatives of nearly 400 companies involved in the digital advertising supply chain, and it has created separate sub-groups focused on addressability and accountability.

Communications and Education Working Group

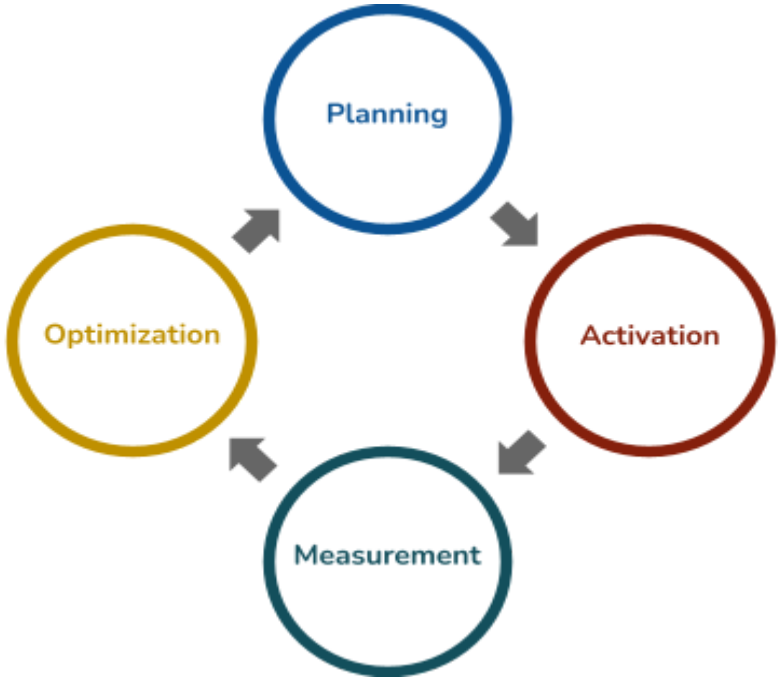
Launching in early 2021, the Communications and Education Working Group will serve as the primary communications vehicle to educate industry stakeholders, policymakers, and the public about the recommendations and solutions developed by the Partnership.

The Working Group will bring together communicators and other representatives from industry trade organizations and participating companies. It will design the Partnership's strategic narrative and provide materials for stakeholders across the ecosystem to understand and implement the standards, principles, processes, and solutions that result from the Partnership's work. Please visit www.ResponsibleAddressableMedia.com to learn more.

Section 1: Advertiser Business Use Cases

While the classification of business use cases could certainly include market research, creative design, product testing, and more, we've limited it for simplicity and to provide a basic categorization of the priority use cases generated during the Business Practice Working Group sessions that took place in the Fall of 2020 that follow.

- Planning
- Activation
- Measurement
- Optimization



Section 1.1

Planning

Buying Decisioning

Digital Media Buying

Digital media buying enables advertisers to reach and engage people across different publishers' properties to generate an advertiser-defined success metric.

The media buying process encompasses the following steps:
Pre-campaign

- Creative development (format, content, imagery, fonts, color, etc)
- The planning process (deciding which audiences to engage, where, on which device, when, with which content, and for paid media, which budget allocations, and at what price)
- Set up process (configuring technology to deliver content based on rules or algorithmically, optimizing towards advertiser's business goals and based on measured interactions with the content delivered)

Intra and Post Campaign

- Buying process (negotiating and/or calculating how much to pay, submitting this offer to the inventory seller or service, and recording the price paid)
- Matching process (delivering the content to the recipient, detecting fraudulent impressions, or impressions that were different than what had been contracted, for example, impressions that weren't viewed or were delivered outside the contracted audience parameters, e.g., geography, demographic, time of day, etc.)
- Measurement process (understanding subsequent response rates associated with showing which permutations of audience, content, context, time, etc. correlate to advertiser success metrics)
- Optimization process (determining which shared commonalities among the responses, such as audience attributes, context, time of day, or device/app experience, correlate to which subsequent user actions that advertisers consider success metrics, such as completed view, click, visit or purchase)

Because most advertisers and publishers cannot afford to negotiate directly with millions of their counterparts, interoperability standards and measurement are necessary for cross-publisher media buying.

Note: Market research or creative development services are not part of this write-up.

Identifier Dependencies

What's breaking, and how does the loss of identifiers impact this business activity?

- Above the glass (customer experience)
    - Without the ability to focus investments, measure, learn and improve media buying, advertisers' return on ad spend will decline.
- Below the glass (functionality)
    - Without a pseudonymous ID that can be relied upon to measure the subsequent response rates, not only to the immediate interaction (such as a view, click) but subsequent activities (such as a visit, purchase), the learning and optimization process breaks. With only a pseudonymous ID, challenges exist with cross-device, offline activities, and even online closed-system measurement.

Variations by Geographic Region

- Cost issues
    - Smaller markets have smaller populations than larger ones and thus physical data storage may not be commercially feasible if organizations were forced to store data locally.
- Effectiveness issues
    - Smaller markets may benefit from sharing personalized matching of content based on how people in other countries interact with similar content.
- Legal distinctions
    - Advertisers often engage people outside the geographic region they operate in.
    - Different regions often have different policies on the acceptable use of data collection and processing. Common to these privacy regulations is the distinction of directly-identifiable from pseudonymous identifiers and their different levels of risk they pose to individual privacy.
- Sales and support costs
    - Different regions have different tax, shipping, support and localization, language requirements.

Variations by Media Channel

- Buying variations
    - Cost-per models supported vs Gross Rating Points (GRP)
    - Whether independent verification is available to measure what is bought
    - Whether guaranteed delivery is supported
    - Whether cross-publisher inventory is available through a centralized/programmatic buying platform
- Engagement and measurement variations
    - Browsers rely on pseudonymous IDs often stored in cookies
    - Mobile devices rely on mobile advertising IDs (MAID) generated by the OS.
    - TV devices rely on device or network IDs generated by the OS, application, or network.
    - Note: Directly identifiable ID use cases for direct mail, email, multimedia messaging service, or call centers are beyond the scope of this write-up

Custom Audience Selection

Custom Audience Selection (also called “segmentation” or “audience-based buying”) is a common means of determining ‘to whom’ an advertisement is served based on information about the user’s behaviors – frequently based on current, prior, or predicted behaviors. Behaviors can include content interaction (frequently engages with sports content) or commercial activity (in-market for an auto purchase). In addition to behavior information, advertisers create custom audiences based on demographics, geography, and declared information, such as responses to surveys.

For programmatic media, user identifiers (stored in cookies, mobile device IDs, etc.) are included in a bid-request, enabling organizations interested in purchasing an impression to determine the value of this impression to a given advertiser based on other information the advertiser (or agent thereof) has associated with these identifiers. The specific application of user information to inform custom audience selections can be broken out into several categories including but not limited to: Prospecting/Look-alike Modeling, Retargeting, User Suppression, Interest-based Advertising, and B2B Audience Selection. Custom Audience Selection is also used to manage reach and frequency to ensure brands are as efficient with their ad spend as possible.

Specific sub-use case definitions are as follows:

Prospecting / Look-alike Modeling

This top-of-funnel subset of custom audience selection is focused on helping brands expose their message to new or prospective customers. This is often done through one of two methods: manual or algorithmic segmentation. The manual segments are often used for prospecting, suppression or exclusion, retargeting, and/or rules to ensure a desired reach and frequency. A common method of generating algorithmic segments in the planning phase is look-alike modeling.

- Prospecting is the use of selecting a group of users that are not currently a part of the brand’s 1st-party data set (e.g., not existing customers or site visitors). Prospecting is frequently informed either through the brand’s aspirations towards new customer segments, or informed in some way through a propensity with existing customer segments. This may be done by selecting a loose set of custom audience criteria that generally assumes some level of interest in the advertiser’s product or

service, for example, based on demographic, location, or interest data from a 3rd party data provider.

- Look-alike modeling is a form of prospecting that focuses on identifying audience segments to select custom audiences based on their shared attributes with a set of existing customers, often derived from a brand's 1st-party data. Features in look-alike models can include demographic, geographic, behavioral, attitudinal, and/or psychographic attributes. Regardless of methodology, look-alike modeling answers the question 'how do I find more customers, given the attributes of my existing customers.'

Retargeting

Retargeting (also called "remarketing") is a subset of custom audience selection that focuses on serving a message to users based on prior interactions with the brand and often derived directly from the brand's 1st-party data. A common use-case for retargeting is to serve advertisements to users that have previously been to a brand's property(ies) to drive them to take the desired behavior, often a purchase. Retargeting involves understanding that a user previously interacted with the brand in some capacity, and then delivering ads to that user based on that prior interaction. It may also be used to nurture and develop a brand's relationships with current customers through educational messages (such as signing up for paperless billing) or complementary products and services.

Suppression

Suppression enables brands to define a set of users that they wish to exclude from their custom audience selection, often because those users are either already customers, do not meet the brand's criteria of people likely to become customers, or have already seen the ad a sufficient number of times. Suppression is frequently used in conjunction with prospecting/look-alike and retargeting to further refine the set of consumers a brand is exposing their message to – e.g., create a look-alike model to acquire new customers, but create a suppression segment to exclude existing customers. It is also used to ensure an ad isn't shown to a user too many times in a short period, which can result in a poor user experience and negative brand impact (annoying the consumer) while wasting media dollars.

B2B Audience Selection

B2B audience selection is a subset of custom audience selection designed specifically for B2B advertisers. B2B audience selection leverages information about a user's relationship to a corporate entity (e.g., the company they work at, or potentially attributes about their firm) to serve highly relevant advertisements.

Reach and Frequency

Unlike the other sub-use cases, rules associated with reach and frequency are attributes or metrics of an audience aimed at answering 'how many' users were served an advertisement and how often. Reach corresponds to the number of users a brand is reaching with their advertisements, while frequency establishes the number of times a user is exposed to advertisements in a given period. Often, an advertiser uses these metrics to determine whether to suppress an ad from serving to a user based on previous exposures.

Identifier Dependencies

Custom Audience Selection is materially impacted by the deprecation of digital identifiers, as these are the cardinal units by which audience selection occurs. The general impact of this across all use cases is as follows:

- Difficulty connecting brand 1st-party data to identifiers in bid requests means that finding opportunities to serve ads on a user basis becomes difficult, even for the most scaled brands.
- Insufficient volumes of user IDs present in bid requests mean that more ads must be served to achieve a given outcome through a different means, contextual as an example.
- Insufficient volumes of IDs to track users and create audience segments that consist of users beyond a given brand's 1st-party data set, which would reduce the ability to engage in prospecting.
- The elimination of cross-property tracking means that the ability to create prospecting segments/look-alike models, as well as retargeting and suppression, is materially constrained.
- Reach and frequency calculations/metrics and audience suppression based on ad exposure are also negatively impacted due to the inability to understand 'to whom' a given ad or set of ads is served.

Specific impact by sub-use case is as follows:

- **Prospecting / Look-alike modeling** – These audience selection vehicles assume the ability to identify, track, and message users outside of a brand's 1st party data set, and for look-alike modeling the ability to compare a brand's 1st party data to users outside of their 1st party dataset. The interference with user identifiers negates these forms of audience selection or shifts the focus to the sell-side.
- **Retargeting** – Retargeting, by nature, involves identifying a user and then advertising to them across properties to drive the desired behavior. The deprecation of identifiers directly impacts a brand's ability to identify their customers across sites, and thus negatively impacts retargeting dramatically.
- **Suppression** – Similar to other sub-use cases, suppression is negatively impacted due to the interference with user identifiers due to an inability to identify the users a brand would like to suppress from the custom audience.
- **B2B Audience Selection** – Depending on the flavor of B2B selection, this sub-use case is potentially less-impacted by the deprecation of cookies, as much B2B audience selection happens at the IP address level. That said, if IP addresses are truncated/masked/removed entirely, B2B audience selection is impacted similarly to the sub-use cases above.
- **Reach and Frequency** – Reach (how many users are advertised to) and frequency (how frequently they're messaged in a given period) both require a concept of individual users to calculate and thus face similar impact to the sub-use cases defined above.

Variations by Geographic Region

The main geographic variations to custom audience selection involve what the relevant privacy regime is in that specific region, examples include GDPR (EU) or CCPA (California). These privacy regimes inform how personal information can be collected by various entities in the digital ecosystem, often focused on whether that region embraces an opt-in or opt-out paradigm for the collection of personal information. This is consistent across audience selection generally, as well as sub-use cases.

Variations by Media Channel

Media channels that do not have a deep base of user-level identifiers with rich associated attributes will not be able to offer an efficient ad spend environment and will be affected by seeing lower budgets—leaving Google, Apple, Facebook, and Amazon as the beneficiaries, as their user base is predominantly logged-in to their services and is behaviorally rich (via tags and forms, based data sources).

Sequential Messaging

Sequential messaging is a delivery strategy in which ads are served to a user in a specific order. It enables personalization across the consumer journey, the appropriate creative message as well as a relevant destination/landing page experience. It is coordinated across various consumer marketing touchpoints, channels, and partners. Sequential messaging enables dynamic creative optimization (DCO) and omnichannel activation to take into account the consumers' previously expressed interest, need, and exposure to the brand.

Sequential messaging delivers a cohesive, optimal marketing experience to consumers and is applicable across varied industries and campaigns. It is an orchestration of a responsive marketing experience designed to either pick up from where a consumer might have left on the brands' owned properties, creative message delivery, or a stage of the decision journey.

It allows for advertisers to get greater returns of investment and effectiveness out of their non-working media dollars such as creative, content, and technology development. It also allows for richer consumer experiences on small to mid-size, high quality, and relevant publishers; by allowing these experiences to occur cross sites.

How it Works

The advertising platform uses identifiers to determine what stage the consumer is in and what the previous interactions with the brand have been across media, marketing, and CRM, etc. A sequence of ordered creative is kicked off by a trigger event where the first interaction in the sequence occurs.

An identifier is associated with each interaction which informs the technology platforms across advertising, marketing, CMP, DMPs, etc.; which message would be most beneficial to the consumer next based on their previous history of exposure. For advertising that involves an ad serving platform registering an interaction to their technology, based on the identifier, of which ads the user has already seen and which one to serve next. Each sequential message served to the user allows the brand's story to unfold over time and aligns the user to a specific customer journey. The number of ads used, the type of media, the channels, and the goal of the messaging depending on the campaign.

For example, a user, who has been identified as new to the brand, is served video-1 which introduces a variety of products. If the user doesn't complete the video, the same video is served again to ensure a good baseline. If the user does complete the video, then video-2 is served and is focused on products more tailored to that consumer. The next time the ad platform recognizes the user identifier, video-3 is served and is geared toward increasing the user's interest in a specific product. Video-4 may bring the user closer to a call to action, and video-5 may offer a special deal for completing a purchase.

Identifier Dependencies
A sequential ad rotation can only be served to users based on cross-publisher identifiers because the ad server needs them to determine which creative a given user has previously seen in the sequence and which one should be shown next.

Variations by Region
None. Aside from how data is gathered, maintained, and stored given the region's laws, little variation (if any) exists in executing this activity.

Identity and Consent

Responsible Management of Consent

Consumers expect seamless interactions with brands across their digital ecosystems. In today's digital reality, brands and consumers acknowledge that data will be captured, and consent to associate their behavior with their identity must be clearly given and respected.

Consumer understanding of the value exchange at hand between a business/brand requesting to collect their identifiers, behaviors/actions, and approval to continue to communicate with them is gaining momentum, but there is still room for improvement.

Consumer experiences on platforms/pages/sites are impacted by this value exchange and consent process. The information consumers read, see, and even hear is often funded by a brand observing their interactions with their digital properties. This can only occur if a brand has a clear understanding of who – in some regard – the consumer is and what level of consent they have given.

Advertisers desire and will likely soon require reliable ways to collect, manage, respect, and allow consumers to revoke consent for data leverage, tracking, and related capabilities. Without a durable and ubiquitous method of managing consent interchangeably throughout the advertising and marketing technology ecosystems, advertisers face reputational risk, sub-optimal user/consumer experiences, and potential legal implications.

Technology Partners of the brand and publisher must also manage, enable, and respect consent. (e.g., DMPs, CDPs, related activation, engagement, measurement, and optimization technologies)

Regulator / Ethical parties must enforce consent violations in a clear, consistent, and efficient way with visibility to actual infringements.

Sub-use cases for responsible identity management are:

Decentralized Sign-on, Preference, and Consent

One approach to improving consumer preference management would be for the ecosystem to adopt an industry-standard owned and maintained by a group of industry leaders. The standard should outline a way to create, maintain and exchange a consent-based, set of cross-publisher and/or persistent IDs as well as consent and preference set across partners in the market that implement the standard. This would allow for:

- No centralized owner of a cross-publisher and/or persistent ID, consumer preference, or consent.
- A streamlined, common consumer experience across any partner that implemented the standard.
- Partners have control over what to “ask” for and are able to provide their own messaging on “why”. With a decentralized service, they could grant “blanket” consent for use and not have to opt-in to any new partner.
- When pseudonymous identifiers are required, consumers can choose to set their default preferences once and have this shared across sites when using the same application.
- When directly-identifiable information is used to generate an identifier, consumers would only need to “sign-in” once and manage preferences per site/app/brand/partner across all devices they link to this profile. Note, people should also have the ability to access content without having to log in.
- Consumers have full control over their identity, whether it is associated with identifiers and preferences, including the ability to set expiration dates or manually revoke consent.
- Preference could be stored within the system itself but, more appropriately, the system would be used to provide consent for multiple data sets to be shared between parties.
- A decentralized system also allows for open, ongoing independent audits and compliance reviews.

How it Works

- The board would define the technology standard and requirements.
- Partners would stand up their own systems, or adhere to the common APIs. These could be partners with a vested interest or “good Samaritan” third parties such as privacy advocacy groups.
- Open-source software development kit SDKs would be created for interested parties; those that required identifiers to provide their services to publishers and advertisers and have a need to interact with a consumer directly (audience selection, personalization, etc), or downstream (measurement, etc)

Identifier Dependencies
A universal sign-on process would be a solution to generate a person-based universal identifier. The end implementation of this identifier could be scoped to limit particular uses. For example, brand-specific IDs would be created so that the brand could have a persistent ID they could use for the scope it has been allowed by the consumer (custom audience selection, personalization, analytics, measurement for specific partners), but these IDs would not be able to be shared on an open market to circumvent the consumer preference.

Variations by Geographic Region
The variations would be how personal data is managed due to relevant privacy regulations. A decentralized system provides the opportunity for the information to be stored in the "region of residence" based on privacy law.

Variations by Media Channel
Different technologies have different interfaces (e.g., digital audio vs. connected TV), thus there will be different approaches to providing the appropriate notice and choice for specific devices. Despite these differences, the standard ought to be applied consistently.

2nd party (Publisher) Identity Resolution

Publishers also need to create and maintain consent and preference around identity with their audience in order to define which custom audiences are available to their advertiser partners.

Advertisers want to know that they are reaching the right people through advertising investments. This requires identity resolution and data interoperability between advertisers and publishers. As described above, a "custom audience" is an advertiser-defined select group of potential or current consumers, which an organization decides to focus its marketing and advertising. This audience is defined through a combination of demographic, psychographic, behavioral, geographic, and lifestyle attribute data. This data can be observed (e.g., web, shopping, or buying behaviors) or claimed/survey-based. A basic need of the advertiser is to connect to its target audience within a publisher's audience. This connection can be probabilistic or deterministic, depending on the advertiser's business goals. In either case, a publisher must

possess the ability to measure the effectiveness of its advertising across various properties. This same requirement holds true when the publisher is engaging people across different properties that it owns (e.g., Disney and ESPN).

How it Works

Currently, the user experience to give their consent towards web-page behavior tracking (and other tracking purposes like marketing and analytics) involves the utilization of a prompt before accessing the website, in or near the advertising or “cookie banner” on the bottom of a page or property. The consumer has the choice to either accept the tracking of their identifier and actions, to reject, to partially reject or accept (pending use case) or to do nothing at all. For consent on logged-in platforms or for further information sharing (ie. web-forms), consumers must not only actively enter their information but also acknowledge their permission to have their data captured in line with the brand’s terms and conditions, along with their privacy policy. Consumers often also can denote if they would like to be further contacted for marketing purposes (newsletters, promotions and offers, updates, etc.).

On the back-end of this experience, there are strings of code involved to enable the collection and tracking via website tags of which identifiers (for an individual consumer) are entering the website, what consent they’ve given, and the “unlocking” of further data capture pending that level of consent. This information is generally stored in privacy-safe, encrypted databases to ensure that there are means for consumers to request their data be purged/deleted. This also allows for brands to keep track of which consumers have given consent associated with identifiers, when, and at what level, so enhanced experiences can be built (personalized or not).

Advertisers often choose to rely on other publishers’ audience data to improve their audience engagement. In the case of 2nd party, or publisher data, a publisher collects data about its logged and non-logged in visitors across its various owned properties. This process relies on technology it controls or via partners’ site tags or software development kits (SDKs). These identifiers are combined with site/content taxonomies to generate deterministic or probabilistic audience attributes—demographics, interests, behaviors, and locations. These attributes profiles are in-turn offered to help advertisers better to understand audiences and deliver relevant messages.

- In some cases, an advertiser may evaluate the coverage that a publisher has for a defined target audience, which requires identity resolution. An advertiser may also evaluate the composition that a

publisher has for a defined target audience, which requires data accessibility and potentially portability. This evaluation often is enriched by the publisher's proprietary analytics and/or a third-party measurement (e.g., comScore, Nielsen).

- In other cases, an advertiser will want to deterministically connect its custom audience segment to a publisher's visitors using an identifier matching service. In some instances, an advertiser might use a third-party "on-boarder", who has personally identifiable (log in) data from opted-in users, to connect its identifiers with the publisher's identifier. These deterministic audiences are typically used as "seed audiences" to create discrete look-a-like models.

The challenge to having available digital identifiers is built on the need to ensure consumer data is protected, that privacy is respected and those bad actors are mitigated. However, to best comply with recent legislation – whether it be from Europe (GDPR), California (CCPA), or any future federal legislation in the United States – identifiers are critical. Without cross-publisher identifiers, marketing effectiveness will be impaired in being able to provide for the desired experiences, interactions, and funding the web and content that consumers are looking for.

There needs to be a solution to meet the consumer, brand, and regulator needs in this space.
There is a larger need for consumer education on this topic, and further transparency between brands, publishers, and consumers on what is being captured where, when, and why. Better tools and education are key to building a digital ecosystem where there can be an understood value exchange, inclusive of record-keeping for both optimization and data security.

Identifier Dependencies

- Consumer Experience
    - Digital experiences become even more cluttered with individual session requests for consent capture and tracking.
    - The ability to personalize content experiences across digital properties is impaired.
    - Publishers will be limited in what they understand about their visitors, putting them at a competitive disadvantage to walled-garden platforms.
    - Provides inability for consumers to receive their full tracked/consented data

- Business Functionality
    - Advertising will be less efficient and effective as advertisers find it challenging to identify and engage custom audiences across multiple publishers.
    - Both advertisers and publishers lose the ability to understand and optimize advertising investment performance and content experience by audience, resulting in an inability to identify their target audience on a given publisher property, resulting in consumers receiving less relevant experiences.
    - Ability to comply with standards set in international and local privacy legislation due to the inability to longitudinally understand an individual consumer's levels of consent
    - Incorrect understanding of digital property visitation, utilization impairs publishers' means for UX improvement.
    - The removal of support for cross-publisher IDs (often stored in third-party cookies or mobile advertising IDs) will negatively impact advertiser's ability to engage, measure or improve their media buying across different publishers.
    - While a universal identifier does not currently exist, and the loss of existing identifiers will exacerbate the need to develop an improved, responsible addressable cross-publisher technology.
    - Both advertisers and publishers lose the ability to understand and optimize advertising investment performance and content experience by audience, resulting in an inability to identify their target market on a given publisher property, resulting in consumers will get less relevant experiences.

Variations by Geographic Region
Regulations change depending on location. (GDPR, CCPA, etc.)

Variations by Media Channel
Owned digital properties (websites, mobile applications), digital and social media (inability for retargeting) differ across different devices

Universal Identity Across Channels

An accurate and persistent identifier that remains consistent across channels and platforms, inclusive of walled gardens, allows for effective audience selection and agnostic frequency management at the individual user level. Identity should not vary based on channel or platform. However, for privacy reasons, we should ensure for those people who do not want to disclose their offline identity or have it associated with their digital activity, that the cross-publisher identifier should rely on a pseudonymous ID.

Thus, advertisers require a people-based cross-publisher ID for a subset of all digital interactions and a pseudonymous cross-publisher ID for all digital transactions.

How it Works

The universal identity graph is created across the addressable landscape (digital, social, mobile, addressable TV, CTV, etc.) that can be utilized by all advertisers. To enable people's right to be forgotten by particular brands, each advertiser would hold their own 'identity decoder' to allow them to match people's identity to their digital identifiers as needed for cross-publisher measurement and analytical purposes. This pseudonymous identifier would also enable advertisers to engage with prospects who have not yet interacted with that advertisers' properties. Universal identity can be utilized to manage individual user frequency across channels, even across campaigns, to improve the consumer experience. Universal identity can also be utilized as currency within buying platforms, allowing advertisers to only reach and pay for the consumers that are most important and valuable to them.

Universal identity would also allow for personalization at scale, allowing advertisers and brands to provide a more relevant and meaningful experience for consumers.

Finally, universal identity would allow advertisers to be cognizant, respectful, and adherent to a consumer's request for their personal data not to be utilized for marketing purposes.

Identifier Dependencies

What's breaking, and how does the loss of identifiers impact this business activity?

- Customer Experience

    - The removal of support for cross-publisher IDs (often stored in third-party cookies or mobile advertising IDs) will negatively impact advertiser's ability to engage, measure or improve their media buying across different publishers.
    - People also do not like out-of-control exposures that are not capped by frequency (seeing the same ad too many times in the same experience/show).
- Functionality
    - While a universal identifier does not currently exist, and the loss of existing identifiers will exacerbate the need to develop an improved, responsible addressable cross-publisher technology.
    - If advertisers cannot control frequency across publishers, this will make frequency capping within (the largest) publishers far more valuable -- lack of real-time optimization across publishers likely has a bigger impact on advertiser's ROAS,

Variations by Geographic Region

Various geographies may require different/disparate regulatory adherence based on local laws. Common cross-regional distinctions in privacy regulations often recommend relying on pseudonymous IDs whenever possible, given their lower risks to individuals' privacy. For pre-existing trusted relationships people may be willing to disclose their directly-identifiable information, that links their digital activity to their offline identity, given appropriate notice and choice.

Variations by Media Channel

A cross-publisher universal identifier would require the participation of the 'walled gardens' given the amount of activity that flows through those platforms. Additionally, it would require that all channels adopt a consistent 'currency' so that impressions and GRPs, and other media metrics align into a single definition of expense and value.

Note: Different media channels have different granularities of identifiers available:

- Broadcast radio/tv, out-of-home and print publications have many people viewing to a single ad exposure either at the same time or sequentially.
- Web-enabled smart speakers or voice-assistants may have a household or individual user, and given differences in voices could (with proper notice and consent) be used to measure and count distinct identifiers.

- Mobile app and web browsers have an OS-issued, application-issued or server-issued pseudonymous identifier.
- People submitted identifiers of their directly-identifiable IDs (e.g., email, household address) are a cross-device and cross-publisher identifier.

2nd Party Identity Resolution and Data Portability

Advertisers want to know that they are reaching the right people through advertising investments. Consumers get more relevant advertising. This requires identity resolution and data portability between advertisers and publishers. A target market is a select group of potential or current consumers, which a business decides to aim its marketing and advertising strategies at in order to sell a product or service. This market is defined through a combination of demographics, psychographic, behavioral, geographic, and lifestyle data. This data can be observed (e.g., web, shopping, or buying behaviors) or claimed/survey-based. A basic need of Advertisers is to connect their target market to a publisher's audience. This connection can be probabilistic or deterministic, depending on the Advertiser's business goals and first-party data maturity. In either case, a Publisher must possess the ability to capture 1st party data to measure and understand its users/readers/visitors across its properties. It also requires that a Publisher can segment audiences and deliver relevant ads to its users/readers/visitors based on an Advertiser's needs.

How it Works

A Publisher collects data about its logged and non-logged-in users/readers/visitors across its various owned experiences. This is done through a combination of first-party proprietary and/or third-party identifiers using site tags or SDKs. These identifiers are combined with site/content taxonomies to allow a Publisher to profile a consumer based on demographics, interests, behaviors, and locations. These profiles are in-turn offered to Advertisers to understand audiences and deliver relevant advertising messages. An Advertiser collects data about users and non-users of its products or services through observed and/or claimed (survey) based methods. This is done through a combination of first-party proprietary and/or third-party identifiers using site tags, SDKs, or connected survey panel data. Advertisers use this data to understand and create a Target Market of potential or current consumers that is described on a combination of demographic, psychographic, behavioral, and lifestyle attributes.

- In some cases, an Advertiser may evaluate the coverage that a Publisher has for a defined Target Market, which requires identity resolution. An advertiser may also evaluate the composition that a Publisher has for a defined Target Market, which requires data accessibility and potentially portability. This evaluation will consider data derived from Publisher's proprietary analytics and/or a third-party measurement (e.g., Comscore, Nielsen).

- In other cases, an Advertiser will want to deterministically connect its Target Market segment to a Publisher's audience using a first-party identifier. In these instances, an Advertiser might use a third-party "on-boarder" to connect its identifier with the Publisher's identifier. These deterministic audiences are typically used as "seed audiences" to create discrete look-a-like models.

For Consumers, they are delivered more relevant advertising and offers. This assumes the publisher has been granted consumer permission and follows industry and government policies.

Identifier Dependencies

Both Advertisers and Publishers lose the ability to understand and optimize advertising investment performance and content experience by audience, resulting in an inability to identify their target market on a given publisher property, resulting in consumers receiving less relevant experiences.

- Consumer experience will not be fully optimized or personalized from a content or an advertising perspective.
- Publishers will be limited in what they understand about its users/readers/visitors, putting them at a competitive disadvantage to walled-garden platforms.
- Advertisers will have less data to understand how a publisher does or doesn't help them reach an intended Target Market.
- Advertisers will find some limitation to deterministically connecting their Target Market to Publisher audiences.
- Advertising will be less efficient and effective as Advertisers find it challenging to identify and select custom audiences within a desired Target Market.

Inventory Management

Inventory Management, Planning and Supply Path Optimization

For Advertisers

The ability to understand whether you are more likely to find valuable customers and prospects through a given publisher would be impacted with the loss of identifiers, breaking multiple steps in a media buyer's process. Advertisers wishing to reach particular audiences for personalization would not be able to see which publishers are most likely to have this audience and direct advertising spend accordingly, making digital less effective as a channel. Advertisers would not be able to forecast delivery to their audience across publishers, so they would not invest as efficiently to maximize reach against their audience. This would also make it difficult to create direct deals with publishers programmatically, as they would not know which publishers provide a profitable opportunity and could not accurately predict their desired spend against their audience in the private marketplace (PMP) and programmatic guaranteed (PG) deals.

Advertisers also seek to ensure they are delivering their ads on actual sites that humans are visiting and are not subject to fraud. Third-party verifications vendors and/or ad networks develop methods to identify fraudulent activity; some of which rely on unnatural online behavior pattern detection (e.g., too many displays in a given timeframe, too many clicks in a given timeframe, too little time between the display and click, etc.).

For Publishers

A lack of identifiers limits the ability to maintain appeal and demonstrate a publisher's value as an advertising medium. More advertising spend would likely be concentrated on just the largest publishers, who could offer their own audience data at scale. Without an ability to reach desired audiences across publishers, advertisers would likely focus on publishers on which they could scale against desired audiences. This would result in a greater concentration of spend and investment on fewer publications, most likely disproportionately affecting local, independent, and specialized publications and content.

How it Works

Advertisers either import lists of customers and prospects or leverage a data provider to find valuable

prospects. These lists consist of users who allow for cookie tracking or have opted into marketing promotions by the advertiser. By having a cross-publisher identifier, advertisers can forecast their ability to reach these users and on which publishers. After serving media, they can also see which publisher properties their most valuable customers and prospects tend to consume and further invest in those properties by directing spend to them programmatically, or even by setting up custom media deals to allow for more advertising opportunities on their properties. Publishers also use this feedback to help determine how much of their inventory and what type of users/inventory they should make available to advertisers in this way, providing both advertisers and publishers the best way to find efficient growth for their business.

Identifier Dependencies

- Customer experience
    - The potential loss of free content by smaller publishers and independent media outlets
    - Less relevant offers in the media they consume
- Functionality
    - Inventory forecasting will need to be done per publisher, limiting the number of publishers that an advertiser may be able to work with, or creating a bias towards larger publishers
    - Supply optimization will be more difficult
    - The ability to secure direct deals with publishers based on return on equity will be limited
    - 3rd party verification vendors and/or ad networks may lose some ability to easily detect patterns that might be fraudulent due to a lack of user behavior tracking.

Variations by Geographic Region

None

Variations by Media Channel

Display, Video, Audio

Planning: Stakeholder Perspectives

Consumer Perspective

Buying Decisioning:

- Consumers want improved transparency and control over their identity being associated with their digital activity
- Some consumers want less-personalized/relevant ads and, in some cases, less-personalized/relevant experiences within publishers' content.
- Online experiences would be less friendly with sites requiring log-in and confirmation of data use consent.
- If/when advertisers reduce ad spend, consumers would need to begin paying for more content on the web. This option is not available to the financially disadvantaged.
- As marketing costs increase, some of the higher costs would be passed to the consumers.
- Provides inability for consumers to have their preferences remembered across publishers or request access to the data advertisers are using to match content to them
- Consumers with niche needs or minority consumers may find fewer products created for them (as the costs of marketing these products would increase)
- Digital experiences become even more cluttered with individual session requests for consent capture and tracking bad actors accountable through a streamlined identity and consent system and process.

Universal Identity Across Channels

- People want to protect their privacy as they navigate across the web and engage with publishers.
- People want to ensure data collectors and processors do not harm them.
- When people are harmed, they want to easily hold bad actors accountable.
- To reduce the likelihood of harm, people often want the right to dissociate prior

Advertiser Perspective

Buying Decisioning:

- Reduced ability to serve digital media to custom audiences would significantly reduce media ROIs: lead to cuts in digital media investments.

- Reduced ability to create most relevant communications (currently tailored to custom audiences) and have less enticing experiences with Brands' media, web sites, CRM, and e-commerce.
- Reduced ability to optimize media (across custom audiences).
- May lower investments in developing products that meet the needs of the smaller groups of consumers (as they would be harder + more expensive to reach) - could have an impact on minority consumer groups.
- Will have to invest more in CRM / Loyalty / Direct Ecommerce solutions to collect more 1st party data.
- Advertisers should be able to choose which supply chain vendors they work with, which requires an interoperable ID to plan, measure, and improve/optimize the matching of content on their property as well as across the paid publisher properties they advertise on.
- Advertisers want to ensure the data they use is sourced appropriately and used responsibly not only by themselves but by the ecosystem partners they work with.

Publisher Perspective

Buying Decisioning:

- Without being able to provide core uses cases to advertisers, publishers will lose revenue.
- Publishers will lose the ability to monetize their data assets outside of their platform.
- Publishers will likely be forced to charge people for access to their content, which will reduce their audience and may lead to reduced revenues.
- Without cross-publisher data, publishers will be challenged to use advertisers' 1st party data for insights and custom audience selection.
- Publishers will lose market share to the giant walled garden platforms.
- Publishers should have a choice on which supply chain vendors they work, with which requires an interoperable ID.
- Smaller publishers should have the choice to band together to offer people and advertisers solutions that often require sharing scaled information to improve the matching of content to people.
- Publishers want to maximize the yield of their publisher inventory. They are concerned about their data being re-purposed or used to build monetizable products for which they are not compensated.
- Publishers ideally would have improved the audibility of the data transfers that originate from their property.

Data Partner Perspective

Buying Decisioning:

- The amount of data—and revenues generated by selling data—would shrink significantly.
- The remaining data would be of higher quality and much more expensive, but lower scale across most publisher and brand properties given collecting and connecting data would be significantly harder.
- Facilitating data partnerships (like 2nd party deals) becomes more difficult.
- All would be disadvantaged relative to the internet gatekeeper and walled garden platforms.
- Data Partners want to maximize the value of their data, which requires easy interoperability across a wide array of publishers.
- Data Partners want easy, transparent data collection and processing of the digital identifiers and associated interactions.
- Data Partners want to protect their solutions from being subject to fraud or robot activity.

Technology Partner Perspective

Buying Decisioning:

- Some technology partners (DMP providers) may become irrelevant without access to cross-publisher advertising IDs while others (CDPs) may benefit due to their reliance on emails and the potential to match this data to emails collected on publisher properties.
- All would be disadvantaged relative to the internet gatekeeper and walled garden platforms.
- Technology Partners want easy, transparent data collection and processing of the digital identifiers and associated interactions so that they can focus on providing improved matching of content, measurement of effectiveness, and optimization of their service to publishers or advertisers.
- With lessened ability to have consistent identifiers across different publishers, demand for technology partner services would shrink.
- The complexity and the costs of connecting the dots with more entrenched walled gardens would likely increase.
- Technology Partners want to protect their solutions from being subject to fraud or robot activity. Lack of identifiers may make independent measurement impossible, if not difficult, or cause the measurement to be more inaccurate/incomplete due to lack of data
- Lack of identifiers may require advertisers to rely on “last-click” measurement, which tends to bias towards search and undervalue the impact of display and other digital marketing

- Technology Partners want easy, transparent data collection and processing of the digital identifiers and associated interactions so that they can focus on providing improved measurement of the effectiveness of their service to publishers or advertisers.
- Many publishers, being unable to justify the value of advertising on their properties, will lose market share to the giant walled garden platforms.

Legal Ethical and Regulatory Considerations

Buying Decisioning:

What should the sources of information leveraged to build an audience be?

- Is the data collected in a manner that complies with the relevant privacy regimes by region? Can this be substantiated through technical processes and audits?
- Is the information shared in a B2C service (like a Social Media platform) something that could be used?
- Is information about age, ethnicity, gender, family status OK to be used?
- People should have the ability to opt-out of personalized matching of content when tied to pseudonymous ID, but opt-in to directly-identifiable IDs
- People should have the ability to reset their ID (e.g., exercise the right to be forgotten)
- Appropriate compliance to CCPA and GDPR is made more difficult without a common, consented identifier for consumers.

Identity and Consent:

- Appropriate compliance to CCPA and GDPR is made more difficult without a common, consented identifier for consumers.

Universal Identity Across Channels:

- Must remain flexible to allow for adoption and adherence to shifting and evolving privacy regulations globally. Given the distinctions, privacy regulations stipulate for the risks associated with data collection and processing associated with directly-identifiable IDs and pseudonymous IDs and their relative risks to individuals' privacy, the cross-publisher IDs we use to engage, measure, and optimize media spend ought to adopt these distinctions.
- Must remain responsible for the intimate 'value exchange' between consumers and advertisers and how advertisers fund people's access to digital content and services. Advertisers rely on

cross-publisher pseudonymous IDs to not only fund people's access to digital content and services but tailor their messaging to better match content to the people most likely to engage with their brand's product or service. These same IDs enable advertisers to provide people more relevant, more useful, more valuable consumer experience.

- Must recognize and support people's ability to signal their privacy preferences (e.g., right to be forgotten, objection to personalized content matching) and balance this against business needs to provide ad-funded access to web content and services.

Inventory Management:

- User preference for tracking and marketing should be respected in both of these use cases

Section 1.2

Activation

Site Personalization

(and Other Aspects Of Personalization)

Consumers increasingly expect brands (both advertisers and publishers) to provide a personalized experience, serving up content and offers tailored to their specific interests and needs. Consumers reward advertisers and publishers that provide this type of personalized experience consumers with deeper and more sustained engagement over time.

Site personalization is the process of matching content to improve the personalized web experience of visitors based on their previously collected attributes or activities (e.g., page behaviors, clicks, page views, log-in credentials), and other characteristics such as demographic, psychographic, and geographic data points to personalize the web experience for the user.

The process of personalization first involves generating advertiser-defined audiences, which is described in the planning section of this document. The process of personalization also relies on machine learning algorithms and manual rulesets to control and improve the matching of content to people to improve their experiences and increase the likelihood of improving the advertisers' goals. These predictive models rely on analyzing prior activity from audiences with similar attributes to personalize the content matching for the current visitors.

Both advertisers and publishers can use this technology to customize each individual experience to increase time on site, conversions, and engagement from visiting users. The consumer-level data is collected via a tag or tags placed on the webpage that can identify a range of ids or actions which can be used to identify either an individual or an audience. This site-personalization tag works in concert with a site-personalization manager such as Adobe Target, Optimizely, or a home-grown website personalization service affixed to a CDN.

Site personalization allows the advertiser to answer valuable questions to better inform their retention and acquisition-based decisions such as:

- Is this user a returning customer or a new visitor?
- What content did this user access before visiting my site?
- How valuable is this visitor to my business? What is their propensity to buy?
- What are the specific demographic, psychographic, and geographic characteristics of this user?
- What products or services are they most interested in based on their engagement?
- What previous marketing engagements or campaigns has this visitor been exposed to?

All of these findings direct what messaging, offer, site design, product page, or follow-up marketing touch this user will receive. It can also inform the audience pool that this user is affixed to for retargeting and retention-based long-tail engagements. To collect this site activity data, the publisher or marketing webmaster places a script on all their pages for a website. For a mobile app, the advertiser uses an analytics SDK. As site visitors access and interact with the content/services, signals are sent to the web or in-app site-personalization management system which activates a predefined action for that user.

Most advertisers work with third-party vendors to perform the identification, identity resolution, audience mapping, and syndication of the site-based audiences to their site-personalization management platform due to the complexity and sensitivity of the data processing and real-time data routing.

Takeaways: As regulatory and industry privacy restrictions increase site-personalization will require greater communication and value exchange between the site owner (advertiser or publisher) and the consumer. Without an exchange of an identifier or PII (non-perishable ID) the ability to improve and optimize the match of content will be impaired. Even contextual data, aggregated cohort data, requires a feedback mechanism to understand how different audiences interact with different contexts or using different web-enabled devices to improve the advertiser's goal. Many brands can improve the relevant on-site experiences they provide by developing proactive strategies to drive on-site authentication that can provide consistent personalization across different devices used by the same individual.

Identifier Dependencies
Without identifiers to distinguish unique visitors to a page, advertisers will be unable to link an unauthenticated site visit to a customer profile within their CRM or an audience profile within their site-personalization management platform. Currently, cookies and MAIDs provide the necessary consumer-level attributes to identify the demographic, behavioral, or geographic attributes of a visitor.

Advertisers will need to require all returning customers to authenticate their identity or use contextual signals for un-identified visitors to enable site personalization.

Personalization Based On Predictive Models

(CUSTOMER LIFETIME MODEL)

Identify and reach consumers at the right time with the right message by creating a holistic understanding and marketing communication capabilities at the consumer level (ideally, individual and/or household) by connecting consumer interactions data such as media exposure across all channels, site visits, CRM, Ecommerce, other brand engagement touchpoints and modeling these data to anticipate consumer behavior (i.e. propensity to purchase).

A similar use case applies to the omnichannel professional marketing models with heavier integration with CRM systems [used by Sales Reps] and connections with B2B 3RD party data sources. Personalization in B2B cases could be driven by a blend of model and Sales Rep recommendations.

How it Works

- tagging of all media and other digital touchpoints (1st party data), onboarding offline data (PII-based), and connecting data from all of these touchpoints to the identity graph [in a privacy-safe way]
- connecting 2nd and 3rd party data
- building predictive models
- scaling and activating audiences across communications channels (paid and owned media) – custom audience selection, leveraging consumer journey insights [i.e. sequential communications]
- personalizing e-commerce and site experiences

Identifier Dependencies

- Customer Experience
    - Will see less relevant content and have less enticing experiences with Brands' media, web sites, CRM and Ecommerce

- Functionality
    - Connecting data across touchpoints + offline and linking to 3rd party ID and ID graphs.
    - Realtime onsite identification / personalization
    - Activation across communications channels / media platforms

Variations by Geographic Region
This use case is more relevant for the markets with advanced media and technology capabilities. It is very hard to implement in developing markets.

Variations by Media Channel
All paid and owned channels are potentially affected. Primarily display and native ads.

Website Content and Ad Personalization

Consumers increasingly expect brands (both advertisers and publishers) to provide a personalized experience, serving up content and offers tailored to their specific interests and needs. Consumers reward advertisers and publishers that provide this type of personalized experience consumers with deeper and more sustained engagement over time.

Successful personalization requires the ability to recognize consumers via an identifier, currently in the form of cookies and device IDs. While some personalization can be achieved by reading environmental signals not dependent on an identifier – such as location, device type, and device features – tailoring content to either known or inferred user attributes such as demographics, interests, and previous interactions is required to meet consumer expectations for a 'good experience.

How it Works

There are several common types of personalization, varying based on the type, granularity, and location of the content being personalized. Note that there are also multiple ways to try to categorize and label these personalization practices succinctly, but here is one:

- Website Content Personalization – this is personalizing various aspects of web pages – e.g., copy, imagery, marketing messages, CTAs, links – for each user upon each visit.
- Creative Selection Optimization – aka creative decisioning, next best offer, ad arbitration, automated rotation optimization. This is determining which ad/message to show in a given promotional placement for each user, typically using algorithms.
- Dynamic Creative Optimization – this is the real-time assembly of an individual ad unit (image, copy, CTA, etc.) based on the attributes/traits of the user. This can apply to a brand's ads on 3rd party sites, as well as marketing units on a brand's own website.

All these types of personalization have the notion of testing and optimization baked into them, relying on user and event-level interaction data to improve relevant outcomes over time (e.g., response, conversion, time spent, ad monetization, customer satisfaction, etc.; whatever the brand's goals are for the experience). While some personalization relies on static business rules, it increasingly relies on machine learning algorithms that automate testing and optimization.

A variety of tools in a brand's technology stack is involved in personalization depending on the specific personalization task, including:

- Managing content (CMS, asset management systems)
- Executing ad buys on other properties (DSPs)
- Delivering content (ad servers, content servers, DCO ad servers)
- Measuring content delivery (ad servers, CMS, website analytics)
- Managing people data (CRM, CDP, DMP)

Identifier Dependencies

The commonality across all these personalization practices, tools, and tasks is the reliance on a stable identifier in order to recognize consumers when they visit, enabling the advertiser or publishers to serve up the most relevant content based on the known and inferred attributes of that visitor. An advertiser's or publisher's 1st party identifier is leveraged to tailor the experience based on the profile of attributes and historical interactions they have with the visitor. Brands use 3rd party identifiers and device IDs to augment that profile as well as to help connect their interactions with the consumer across devices and platforms. This is key since consumer expectations for a personalized experience transcend the multiple devices and platforms they use each day and over time.

Variations by Geographic Region

Local regulatory requirements for notice and consent regarding the use of identifiers varies by region.

Variations by Media Channel

Personalization applies to all digital channels including desktop and mobile web, mobile apps, connected TV apps, and all display and video content within those channels.

Bid Decisioning and Training Machine Learning Models

Currently, platforms utilize algorithms to help determine how much an advertiser should bid on an ad opportunity, given their profitability threshold. Without cross-domain and cross-channel identifiers, platforms lose the ability to see user-level attributes to make these algorithms accurate and effective. Without being able to associate a purchase to a user that has seen an impression, the algorithm will not have a feedback loop of successful exposures to be able to accurately predict value.

Certain user attributes, such as the last time the user saw an ad from the brand, and the number of times they have seen an ad from this brand, may also impact the predicted value of an impression. Additionally, if the campaign is dependent on factors that include custom audiences, sequencing, or any other strategy that involves knowledge of an audience and individual users, then an identifier is used to determine whether a specified ad can be delivered, and may affect the campaign pacing or predicted delivery. (Pacing is how advertisers manage campaign budget deployment to influence the relative frequency and duration of campaign ad delivery. The delivery method for a campaign defines the pacing, which may be to deliver everything ASAP, front-weighted, or evenly throughout the campaign.) These details are all part of a complex algorithm that determines which ad should be served next.

Advertisers rely on these algorithms to ensure they are effectively and efficiently investing across the open web, which has a large scale with many small, independent publishers while maintaining performance and profitability thresholds for their business. Without the ability to optimize their media spend efficiently across publishers, advertisers will not be able to invest as broadly across as many publishers. This will greatly reduce the available media dollars to smaller independent publishers and networks already competing for dollars with larger platforms and walled gardens.

Additionally, advertisers with less total marketing budget and/or more niche audiences will have difficulty finding leverage with publishers or be able to access the scale of the open web efficiently. Most likely, smaller businesses (Advertisers and Publishers) will be affected the most. Consumers will also be affected, as advertisers may continue to bid and try to reach users that are not likely to want offers from the advertiser or have ad fatigue due to exposure across different sites and contexts. Consumer experience on publisher sites may also lessen due to fragmentation of exposure data that could lead to overexposure of messages or difficulty in respecting a more universal opt-out preference.

How it Works

Algorithms used by media buyers look at each opportunity to show an ad on behalf of an advertiser and given the campaign parameters an advertiser has specified, including their desired return on investment, for some campaigns, it will determine if the advertiser should buy that impression and if so, how much that advertiser should bid for a given opportunity. There are multiple inputs the algorithm uses to predict how likely an opportunity will result in the advertiser's desired action; some of these inputs are dependent on an identifier. The algorithm must be able to see whether this user would fall into a profitable segment for the advertiser, whether this user has already been shown the offer and how recently, and have enough data on who completed the desired action to statistically infer likelihood through anonymized attributes.

Identifier Dependencies

- Loss of accurate prediction of the value of an ad opportunity or value of delivering a message to a consumer
- Less efficient marketing investment
- Cannot connect data to an individual to understand outcomes, therefore ability to predict outcomes is constrained or removed entirely - negatively impacting things like ad performance, measurement and personalization.
- Machine learning models degrade, resulting in a less personalized user experience.

Email Marketing

Advertisers seek to engage with their subscriber base and the group of people who have expressed interest in getting emails from their company.

How it Works
Users fill a form on a web property sharing their email address. The email address is stored in the web property's CRM database. The email address is used to send promotional emails to users who have shared their email.

Identifier Dependencies

- Customer Experience
  - Users won't have access to the promotional email they've subscribed to.
- Functionality
  - Loss of email address at the merchant side (purpose of the isLoggedIn API from Apple and single-sign-on solutions provided by internet gatekeepers), making email marketing impossible.

Variations by Geographic Region
Local regulatory requirements for notice and consent regarding sending email varies by region.

Variations by Media Channel
All media unable to collect an email with their own system and having to rely on single sign-on (SSO) solutions. Leaving main SSO providers as the beneficiaries (Google, Apple, Facebook, Twitter).

Co-marketing Campaigns

Brands have typically lesser information about their customer or prospective customer base. Thus, they regularly cooperate with retailers to do co-marketing campaigns, co-financing advertising to promote specific Brand products to a Retailers' audience (or a subset of).

Brand and Retailer contract the marketing campaign budget, objectives, and financing (sell product X at Retailer Y, serving Retailer's audience segment S with a set of creatives C). Marketing campaigns are then executed, results tallied, and contractual arrangements honored.

Identifier Dependencies

- Customer Experience
  - Users are unable to be aware of special offers dealt between Brand and Retailer online.
- Functionality
  - With no identifiers, there is no ability to serve ads to a custom target any audience, rendering this use case non-viable.

Variations by Geographic Region

None

Variations by Media Channel

All media channels affected as the definition of the audience at the Retailer level won't be possible any longer.

Fraud Prevention

Advertisers seek to ensure ad spend is not subject to fraud.

3rd party verifications vendors and/ or ad networks develop methods to identify fraudulent activity; most of which rely on unnatural online behavior pattern detection (e.g., too many displays in a given timeframe, too many clicks in a given timeframe, too little time between the display and click, etc.).

Identifier Dependencies

- Customer Experience
    - Customers will be exposed to more low-quality brands ads due to high-quality brands dis-investing from advertising in such an environment
- Functionality)
    - 3rd party verification vendors and/or ad networks won't be able to detect patterns as there won't be any user online behavior identifiable.

Variations by Geographic Region

None

Variations by Media Channel

Media channels unable to offer a user-level identifier will be deprived of offering such optimized creatives, and thus offer a lesser advertising experience to advertisers. Leaving bigger technology players owning media (Google, Apple, and Facebook) with the opportunity as the only properties being to support such functionality.

Pacing

Pacing is how advertisers manage campaign budget deployment to influence the relative frequency and duration of campaign ad delivery. The delivery method for a campaign defines the pacing, which may be to deliver everything ASAP, front-weighted (heavier delivery early on), or evenly throughout the campaign.

All ads incur different costs, depending on format, location, and how many custom audience parameters are met. Managing the value of the campaign requires an ongoing evaluation of ad delivery so that ad spend lasts across a specified duration, or that campaign budgets can be made heavier or lighter depending on marketing priorities.

Pacing is dependent on impression counting against specific types of ads, each with different pricing depending on the unit, channel, audience selection, and other factors. These factors are actively documented and uploaded into a delivery platform that informs when to stop delivering ads, increase delivery, or slow down based on daily budgets or channel impression goals. These details are all part of a complex algorithm that determines which ad should be served next.

If pacing is dependent on factors that include customized audiences, sequencing, or any other strategy that involves knowledge of an audience and individual users, then an identifier is used to determine whether a specified ad can be delivered and may affect the pacing.

Identifier Dependencies
Pacing is highly impacted by the removal of identifiers. Because it has a dependency on “Impression counting” - pacing is similarly highly impacted.

Variations by Region
None. Aside from how data is gathered, maintained, and stored given the region’s laws, little variation (if any) exists in executing this activity.

Variations by Media Channel
Marketing budgets across channels and pricing differs based on the role, format, audience filters, or flight

across channels. Without identifiers, it's going to be highly ineffective to manage costs and pricing across channels and media types to understand where there are efficiencies or inefficiencies.

Activation: Stakeholder Perspectives

Consumer Perspective

Website Content and Ad Personalization:

- Personalization enables consumers to find and discover the content and offers that are most relevant to their needs and interests, quickly and easily.

Advertiser Perspective

Website Content and Ad Personalization:

- By giving people a more relevant experience, personalization drives improved engagement with content and advertising, thereby boosting relevant business outcomes such as leads, sales, customer satisfaction, and brand perception.

Publisher Perspective

Website Content and Ad Personalization:

- By giving people a more relevant experience, personalization drives improved engagement with content and advertising, thereby boosting revenue, monetization efficiency, customer satisfaction, and repeat engagement.

Data Partner Perspective

Site Personalization:

- Without a persistent un-authenticated ID, data providers will be more important to advertisers and publishers with the ability to provide valuable signals to influence a decision or experience for the consumer. The level of consented data or privacy-compliant data provided through this data provider relationship will also need to be a considered factor evaluated by legal, ethical, and regulatory bodies within and outside a marketing organization.

Website Content And Ad Personalization:

- Data partners are able to license valuable user-level data to advertisers and publishers seeking to deepen and refine their content personalization and extend it across devices and platforms.

Technology Partner Perspective

Site Personalization:

- This data should also be scrutinized by the technology partners who will use this consumer-level signal to inform the custom audience and measurement strategies. Data that is collected on-site via pixel will likely use all collected and appended data to influence bid-decisions and cross-channel measurement. For example, publishers who are using both identity-based consented data and/or third or second-party data attributes will need to account for usage, translation, and monetization of these data profiles across the supply-chain.

Website Content and Ad Personalization:

- Technology partners enable advertisers and partners to access and activate user attribute and interaction data to improve advertiser effectiveness (e.g., personalized ads deliver more relevant experiences).

Measurement Partner Perspective

Website Content and Ad Personalization:

- Measurement partners provide advertisers and publishers with solutions to understand the effectiveness of their personalization efforts, as well as data to feed into personalization engines for continuous improvement.

Legal Ethical and Regulatory Considerations

Website Content and Ad Personalization:

- Website Content and Ad Personalization relies on persistent anonymous user-level identifiers to work effectively and therefore should be subject to customer visitor transparency, consent, and choice requirements and principles.

Section 1.3

Measurement

Impression Counting, Viewability, and IVT

Counting impressions is the core metric to measuring anything in a campaign. An impression is one ad served. Over the years, checking whether that ad was actually in view for the user to see (viewability) and that it wasn't served to a non-human bot of some kind (invalid traffic, or IVT) has become an important factor in whether the impression counts for payment and campaign delivery goals.

Advertisers' campaigns are marked by the number of impressions to be served, the audience to which they should be served, and the timing for serving them. As the most primitive metric for campaign measurement, the counts must be accurate. Reporting, analysis, and billing are all built on the integrity of impression measurement.

An impression is simply the count of how many times an ad is placed within its intended destination. However, advertisers may define different factors for the quality of a count. Perhaps a video impression doesn't count unless it has played for at least 3 seconds. Or maybe only ads served within a defined zip code count. Brands concerned with brand safety may insist on not counting ads served in a context that creates a negative brand experience (an ad for beef served on a religious site that reveres cows).

While advertisers may define different criteria, all advertisers typically want to know if the ad was actually in view and that it was not served to invalid traffic.

"Viewability": was the ad actually visible to the user
"Invalid Traffic": was the ad viewed by an actual human (as opposed to a bot/script)

A served ad isn't always in view for the user to see. It may have registered an impression but didn't actually load any creative assets. Or it may have served outside the range of view, such as "below the fold" or under other elements blocking the viewport. Advertisers may hire a measurement vendor to validate whether an ad was in view when it was served.

Another issue with impression counts is whether or not a bot, a script, or other non-human mechanism was used to simulate a view in situations where no human ever had the opportunity to see the ad. This detected invalid traffic removes impressions from the counts used in billing and analysis.

Regardless of what factors play a role in validating an impression, all impressions are counted and then sorted out later in reports based on measurement vendor analysis and the terms of the delivery contract for which impressions can be included in the billing.

Identifier Dependencies

No identifier is needed to count an impression or whether it was in view for human eyes. However, sorting out how many people saw the ad (reach) and how many times each of them saw it (frequency) is impossible without an identifier. And these reach and frequency factors are the basis for campaign delivery management and later analysis.

Variations by Region

None. Aside from how data is gathered, maintained, and stored given the region's laws, little variation (if any) exists in executing this activity.

Omni-channel Activation, Measurement, and Attribution

In order to effectively reach consumers across channels and optimize the most effective consumer experiences, advertisers need to be able to serve relevant ads to the same consumer across different channels and measure the impact of consumer response to multiple advertising touchpoints and channels. Advertising is most effective when you reach consumers with cohesive and consistent messaging across all channels a consumer interacts with your brand. Advertisers must be able to properly attribute the value of each touchpoint and channel in order to properly plan and optimize their campaigns.

Omni-channel approaches allow advertisers to better understand and respond to consumer preferences and actions taken across channels, as shown through buying and other exhibited behaviors. Consumers benefit by being better connected to relevant services and products regardless of where they are consuming media or experiencing the brand. For instance, if a consumer purchases a product on their laptop after seeing a CTV ad, the advertiser can then stop showing them that offer across every channel or show them a more relevant offer for a different product instead. The advertiser also knows that the CTV ad was effective, even if they purchased it on their laptop.

In order to ensure a better consumer experience, advertisers need to also understand where their media investment dollars are most effective and efficient. By enabling advertisers to see event-level data, it enables them to review and identify patterns and select the proper attribution model that works best for their organization. By giving them the ability to evaluate raw event-level data, they can determine what factors are driving performance, and which are least effective.

How it Works

In order for advertisers to understand how to create, attribute, and optimize effective marketing experiences by reaching consumers across many touchpoints, advertisers must rely on identifiers and robust data sets that allow them to understand who has seen and responded to ads after being exposed to them across multiple channels and devices. Tracking and measuring cross-channel and cross-device consumer behavior is necessary for an advertiser to provide a unified consumer experience and help them utilize their media budgets effectively and efficiently. By understanding the drivers that affect campaign performance, advertisers rely on measurement to enable attribution analysis and modeling to identify what is working (and not working), and where their dollars can be better spent. This enables them to measure, monitor, optimize and make decisions on:

- Frequency Analysis and Management. Advertisers need to manage reach and set optimal frequency levels. This allows advertisers (and publishers) to identify areas of audience duplication across campaigns, sites, placements, devices, etc. They can optimize their campaigns to frequency cap ads so that users are not being served too many ads across multiple devices, or identify strategy and/or tactics where they can increase spend to deliver the right amount of ads. This is extremely important in attribution. Advertisers can make a correlation to the number of ads being served, how many clicks or actions it can generate, or direct visits to the advertiser's website (regardless if the ad was clicked), and how/when users are converting. By identifying and managing frequency levels, advertisers can ensure that they are serving the proper ads to the user (preferably across devices) and increase or decrease frequency levels where needed. Otherwise, advertisers could be spending and serving too many ads to an individual, and/or not enough ads, causing lower conversion rates and higher conversion costs. For a user to recall an ad or brand, or consider a particular brands' product or services, consumers need to see an advertiser's ad(s) at certain levels. There is no one size fits all optimal frequency across the industry. In fact, there can be several factors that also need to be analyzed, such as viewability rates, creative format/type, ad size, and where the ad is positioned on a page. If a user sees an advertiser's ad(s) too often, it can result in a negative perception of the brand and lower conversion rates with a higher cost per acquisition. And if users don't see enough ads, it can result in a potential loss in sales, where media dollars are being spread too thin across too many publishers or tactics, or just not in the right place.
- Understanding which creative messages and/or creative elements are most and least effective (e.g., headline, background color, font color, font size, call to action, imagery, offers, etc). This also includes understanding messaging sequence, rotation weighting, time between each ad exposure, and conversion latency windows. Ad performance for one creative ad can vary by audience, publisher, placements, geographical location, device strategies, targeting tactics, etc. Understanding how each ad performs based on these factors informs an advertiser's messaging strategy, what types of ad units to buy, and which publishers to serve their ads with. They can focus on creatives and/or elements of creatives that generate the most clicks or visits to their websites, or brick-and-mortar store(s), or online shopping, or lead generation.
- Cross-campaign analysis. Although most advertisers set up separate campaigns with very different objectives (such as brand awareness, traffic driving, lead generation, remarketing or sales), users may be exposed to different or multiple messages and campaigns from a single advertiser. It's important for advertisers to understand which campaigns users were exposed to and determine where in the sales funnel they are. This allows them to better understand if their campaigns are effectively (and efficiently) driving users down the sales funnel. Advertisers want to analyze all their

activity across their paid, owned, and earned channels. Since almost all advertisers have multiple campaigns in the market, they need the ability to analyze user behavior across these campaigns. This can be done via raw event-level data and/or setting up their analytics platforms (eg. ad server, site analytics, etc.) so that they can determine assisted and unassisted conversions, exposure points to conversion, cross-campaign, and cross-site duplication, etc.

- Audience Segments. Most advertisers and publishers collect limited personal information data of the users that visit their site if any at all. Most only collect First Name, Last Name, Email Address, and sometimes address. Some will collect data regarding content/information regarding their content preferences and/or interests. For eCommerce sites, they obviously also collect items that have been purchased, as well as pages that they've visited (if a user has logged in with credentials). Many publishers and advertisers use this information to send out newsletters and/or other CRM communications. As a result, often information such as offline and online behaviors, lifestyle, or life stage/events, etc. is not collected by advertisers, who instead rely on third-party data providers and technology companies to provide additional insights and audience parameters to serve relevant ads and content. Most advertisers and publishers will leverage third-party data to supplement their own data (anonymously) since it would be quite expensive for them to source and/or manage on their own.
    - Therefore, when ads are being served to users, it's important for advertisers and publishers to understand these data points and measure which audiences are likely to respond and convert. This helps them to gain insights on audiences and enable advertisers to spend their dollars on audiences that have a higher propensity to purchase or show interest in their products and services, and enable them to extend their media dollars via look-alike models and new prospects. This enables the ability to identify the right message to serve to each consumer, and the most appropriate sites and placements to serve them. Users in turn see ads that are most relevant to them, regardless of what site they visit or the context of a page. This audience information can be used to drive the entire media planning and activation process, which improves the overall experience for the consumer across all touchpoints.
- Offline-to-Online Conversion. Many advertisers invest their media dollars in both traditional and digital channels. Traditional media channels can include out-of-home, print, television, kiosk, etc. Advertisers want to understand if their offline spend is driving online activities and/or conversions. Advertisers spend their media investments in local markets, nationally, or both. Through brand and ad effectiveness studies, and by overlaying their offline media data onto their digital data, advertisers observe if there is a lift in consumer response via search queries, website traffic and/or

online leads, sales, or conversions. This requires them to be able to drill down to geographical areas such as city, state, zip code, and/or Designated Market Areas (DMAs), and determine if there are lifts in online sales when there is heavier offline media activity in those specific areas they are marketing to.

- Online-to-Offline Conversion. Advertisers also want to understand if their online digital media spend is driving offline sales. This can include call center activity, footfall measurement, etc. By understanding if users were exposed online to an ad (including how many, where, and when), advertisers can better predict how this can affect offline sales and conversions, and be better prepared to understand what users are most interested in, as well as manage product inventory levels at each store.

To enable advertisers (and publishers) to measure and understand traffic and sales drivers of both their online and offline properties, a common identifier across different content, channels, publisher platforms, and devices is needed. Today, this is done by relying on pseudonymous PII, device, and browser identifiers to understand when a user has been exposed within a single channel both on owned and non-owned channels.

It's important to allow advertisers and their agencies the ability to collect this data themselves and analyze patterns in the data, providing the ability to dive deeper into the data sets to draw out insights that contribute to an improved consumer experience.

Advertisers, Publishers, and Technology companies alike require the means to measure media activity, whether that be specific to the digital marketing ecosystem or related to operations and product sales (as examples). In the realm of addressable media, measurement of advertising and operational delivery, effectiveness, and efficiency is dependent on understanding which ads have been served/placed, to whom, and the logic behind that delivery. As such, measurement in this space can be emphasized on two key components:

- Delivery: Reach/Impressions, Frequency, Viewability, Costs per Unit
- Outcomes: Conversions (online and offline sales, clicks, registrations, downloads, etc.) and conversion proxies (surveys, brand impact, etc.)

Measurement, Attribution, and Analytics workstreams deliver tracking/business intelligence and media performance information relative to media delivery, as well as modeled or advanced analytic workflow and identity stitching for more advanced outcome measurement approaches. These approaches include:

Click- and View-Based Attribution

Advertisers often measure their campaigns by keeping track of ads that produce a predefined result, or conversion. This process involves assigning credit to the ads that are either clicked or viewed within a given timeframe prior to a predefined action, such as a purchase or app download.

When a user views or clicks an ad and subsequently completes a desired action, advertisers assign credit to the ad that drove the conversion. The resulting conversion data is used to both negotiate final payment terms with publishers and partners and to analyze details about what factors drove conversions and campaign results.

Conversions are typically credited to ad views or clicks that occur within a set timeframe prior to the occurrence of a defined action. It works by using an identifier associated with a user at the time that the ad is served or when the user clicks it. The identifier is either already stored on the user's browser as a cookie or an identifier on the user's mobile device as a MAID. If an identifier doesn't already exist for the user, a new pseudonymous one is created and assigned.

To measure a conversion, advertisers place a tag in a unique position that can only be reached upon completion of a defined action. For example, a "thank you for your purchase" page only displays upon the completion of a purchase and some sort of "action tag" is served along with the page. A conversion window is set, which is defined by the maximum allowed time between the view or click of an ad and the completed action. If the same identifier associated with the view or click is also seen at the time of the completed action—within the specified timeframe—a conversion is counted and credit is attributed to the view or click as well as the source of the view or click.

Cross-Device Measurement

Organizations maintain cross-device profiles that are resolved to unique people, households, or businesses. This profile is sourced from a number of data signals including real-time bidding requests, data sharing, and other business relationships, internal CRM data, user-agent metadata, and offline data

sources like census records or offline sales information. When data signals are combined using various methodologies, a patchwork of cookie, mobile, device, or probabilistic identifiers can be resolved to a single discreet ID value. This ID value represents the profile of a single person, a household that might include adults and children, or contact or set of devices associated with a business. Over time, this profile, which is built on multiple identifiers, is maintained and used to improve campaign performance.

Multi-Touch Attribution

In many cases, a conversion is driven by consumers seeing and engaging with more than one ad. Advertisers use multi-touch attribution (MTA) to allocate partial credit to each of the ads that contribute to a conversion. This attribution approach measures the incremental impact of ads across channels, devices, creative units, and other vectors, instead of focusing credit on the “last touch” that occurred before a conversion. MTA is executed by using an identifier to track user interactions with ads across multiple media channels and devices. A tag ID, served with each ad placed, looks for an identifier that was also seen interacting with other ads within a set time window. Based on factors like timing, an approximation to the conversion, engagement, and media channel each touchpoint is considered one of many driving forces for the conversion and credited with a percentage of the value for that conversion.

Identifier Dependencies
With the loss of cookies, identifiers, and raw event-level data, there would be a negative impact on measurement and attribution for advertisers/advertisers, publishers, data, and technology companies. By limiting the data that they can collect and analyze on their own, it would make it extremely difficult to identify patterns and draw insights into what is driving their campaign performance(s).

It’s important that companies have the ability to see certain data attributes so that they can draw their own conclusions and models without sacrificing consumers’ privacy. By deprecating third party cookies, IFAs, and raw event-level data, the following would be affected:

- Customer Experience
    - Consumers likely won’t benefit from the same amount of free content/service online as media budgets move away from environments where measurement is made impossible.
    - Consumers will not have as cohesive or relevant of an ad experience across channels, resulting in a poor experience. Consumers have been shown to be more likely to purchase or take actions when marketed across channels, displaying their preference for omnichannel experiences through their behavior.

    - Consumers may not have their purchase behavior and preferences considered if they purchase through a different method or technology than where they consume media.
- Functionality
    - Advertisers will not be able to make investment decisions or optimize ongoing campaigns based on the most impactful marketing across channels or understand the effect of running multiple channels concurrently, leading to over or under investment in certain channels and wasted dollars/higher customer acquisition costs.
    - Advertisers would be unable to relate onsite activity (form-fill, page visit, sales) to offsite activity (display, click), rendering any attribution-based tracking impossible.
    - Advertisers will not be able to let consumer behavior in one channel inform and optimize their marketing to the same consumer in other channels, leading to wasted spend and lost opportunities with consumers, and a less-positive consumer experience.
    - Advertisers would need to rely on walled gardens to offer any sort of omnichannel experience, leading to less competition and innovation across the open web and independent content and platforms
- Data Requirements
    - Impression Based Measurement: Rendered Impressions, Viewable and Human Impressions, Viewability Rates, Content Identifiers (type, category, etc.), Site and Placement, Ad Size, Format, and Positioning.
    - Conversion / Outcome Data: Post Impression-Based, Post-Click, Assisted and Unassisted, Exposure to Conversion Latency, Cross-Device and Cross-Environment,
    - Level of Granularity: Timestamp or Time of Day, Date(s), Time Zone, Geographical Location (Country, State, City, Zip Code, and DMA)
    - Technographics: Operating System, Device, Browser, Screen Size, Screen Resolution

Variations by Geographic Region

The US has the most matched datasets, identity graphs, and technological solutions so more will be lost here but this applies to any market where cookies and apple ids go away. The US likely will be the quickest to find alternative solutions because of market maturity. Markets with large local or global walled gardens will see fragmented offerings from those walled gardens which may or may not help advertisers depending upon category and scale but would limit the advertiser’s ability to drive the best pricing with that vendor if they knew the full conversion history.

Variations by Media Channel

All media channels will be impacted, particularly the ability to understand the cross-channel impact

Incremental Lift And ROI Analysis

Without universal identifiers, incrementality will be near impossible to measure and will be impossible to dedupe among various partners and audiences. There are three major use cases within incrementality that are at risk:

- ROI Analysis
- Lift Measurement
- Incrementality Based Measurement

ROI Analysis

In a closed-loop ROI analysis, optimization of ad delivery is based on return on investment (ROI), or rather return on ad spend (ROAS), from conversion volume. While the analysis uses calculations based on conversion volume, the strategy is to optimize toward revenue.

Lift studies use A/B analysis to understand how a group of people exposed to an ad produces key outcomes relative to a control group. The analysis shows a variation in brand awareness, purchase intent (PI), or other metrics of interest to the advertiser. The percent difference between the two groups is the ad or campaign's "lift".

Not all conversions are equally valuable. There are many advertisers who sell a wide variety of products and services. Imagine a marketplace where some conversions generate $1 in profit, and other conversions generate $1000 in profit. An advertiser with this kind of range in conversion value wants to focus on maximizing their profit with the higher yield conversions rather than simply increasing conversions.

A conversion is measured using an identifier to track a user who has viewed an ad and then moves on to perform an action. This is typically done in web browsers by placing a small text file (cookie) on the user's computer, tagging the two endpoints of a desired action with a small code snippet, and then using that code snippet to watch for the placed cookie. If a cookie is seen at both endpoints within a given time frame, a conversion is counted. Other non-web media channels can't place cookies, but they do use different types of identifiers to essentially achieve the same result.

In any ROI analysis, the advertiser tries to estimate the conversion value when deciding on the conversion detail for their ad spend. Ad delivery is then optimized to achieve higher value conversions. Besides optimizing for high-value conversions, other optimizations include driving traffic to a specific partner or retailer, a store-specific location, a specific product category, or an SKU that represents a specific product item.

Once a known customer converts and is seen in an online/offline conversion feed, ad messaging for that user is canceled. Ad spend on a convert is wasted media and prospects for the convert then shift into retention strategies. Of course, an identifier is necessary for the system to recognize that user and withhold ad delivery.

The ability to match identifiers of the advertising medium and conversion data set is required to create lift studies. For example, if there's an ad that is served with a cookie identifier, the conversion event for attribution must have the means to track via the same cookie identifier. In recent years, the availability of both probabilistic and deterministic device graphs has allowed ads with practically any identifier to be matched with conversion data with practically any identifier.

Lift Measurement

Brands engaging in creating improved brand health and brand awareness for a product or service typically invest advertising budgets to do so. These budgets are typically large as the target audience is very broadly defined. To get some reassurance that the advertising campaign has been effective, Brands engage in Lift measurement activity, which offers a measurement of the difference in awareness or brand consideration or purchase intent about the product/service users who have been exposed to the campaign vs those users not exposed to the campaign.

How it Works

- Users (i.e their technical representations: cookie, device-id, etc.) are split into 2 groups: one that is exposed to the advertising campaign, another one that isn't.
- After the campaign, users from both groups are asked to complete a survey asking them whether they are aware of the promoted product/service or considering that brand. Alternatively, data sources can be leveraged to determine store visitation (location data) or brand engagement (in-app or online store engagement data).

- The ratio between the positive response rate in the exposed group vs the non-exposed one is called “Lift” and is the measure of the effect of the advertising campaign.

Incrementality Based Measurement

Advertisers seeking to understand what part of their advertising spend is actually driving the desired outcome that without this spend would not have occurred.

How it Works

- Users (i.e their technical representations of people: cookie, device-id, etc.) who accomplish the desired outcome are split into 2 groups to determine which have been exposed and which have not (i.e. control group). Sometimes this is done ahead of the campaign, and sometimes after the campaign.
- Each group’s added value for the advertiser is tallied (e.g., number of form-fills, number of visits, number of sales, sales amounts). Sometimes the attributes of the groups are weighted (e.g., gender) to account for the sampling bias that can occur with analyzing smaller total outcomes.
- The ratio between the tallies of the exposed group and the control group is the incremental value brought by the advertising campaign.

Identifier Dependencies

- The measures of campaign spend, its pacing, acquisition volume, and acquisition revenue use identifiers that are counted at the two endpoints of a conversion. The analysis of these measures compares the cost to revenue based on attributes associated with the counted identifiers.
- Advertising causation can be determined over time using methods in more aggregated forms that don’t necessarily require identifiers; however, without identifiers advertisers like the fine-grained data they need for better analysis.
- Customer Experience
    - Customers won’t receive Lift surveys any longer …
    - Customers likely won’t benefit from the same amount of free content/service online as budgets (a.k.a branding budgets) flee away from an environment where measurement is made impossible.
- Functionality
    - It won’t be possible to split users’ identifiers into 2 groups since there are no identifiers any longer.

    - Advertisers won't be able to measure "Lift" since it is impossible to identify each group.
- Above the glass (customer experience)
    - Customers likely won't benefit from the same amount of free content/service online as budgets flee away from an environment where measurement is made impossible.
- Below the glass (functionality)
    - Won't be possible to split users' identifiers into 2 groups since there are no identifiers any longer.
    - Won't be able to measure incremental value since it is impossible to identify each group.

Variations by Geographic Region

- None. Aside from how data is gathered, maintained, and stored given the region's laws, little variation (if any) exists in executing this activity.

Variations by Media Channel

- Every channel collects data differently, with varying methods for creating identifiers that reflect users.
- Podcasting channels have no way to capture identifiers or subsequent actions by users. They can still perform closed-loop ROI analysis, but without the granulated data, they could have with identifiers.
- In Affiliate Marketing the advertiser only pays when a purchase is made, the publisher is incentivized to promote the product or service as aggressively as they like, without any loss of over-or under-delivery. Publishers can share their affiliate links on their website, using social media, in emails, and anywhere else they wish to promote an advertiser's product or service.
- Media channels that are unable to offer a user-level identifier and support a user-group split will be left out from these budgets. This would leave Google, Apple, Twitter, and Facebook as some of the beneficiaries as their user base is predominantly logged-in to their services and they offer content to users (acting as a media).
- Media channels unable to offer a user-level identifier and support a user-group split will be left out from these budgets. Leaving Google, Apple, Facebook, and Amazon as the beneficiaries as their user base is predominantly logged-in to their service.

Measurement Calculates and Associates Sequences Of Events

Measurement enables advertisers to understand what marketing and media tactics are working well, namely after they expose people to content and the extent to which this messaging accomplishes their goals. The content may be delivered on the advertiser's own properties or across other publisher properties (paid media). This process often involves the calculation of intermediate metrics such as counting distinct exposures (to measure how frequency correlates to performance), aggregating events by shared similarities across various choices of creative, audience, placement, budget, and price. When calculating these measurement metrics, advertisers often assign the effective value associated with either the content exposures (i.e. cost-per-mille (CPM)) or subsequent outcomes (i.e. cost-per-click (CPC) or cost-per-action (CPA)), regardless of the actual billing metric. For example, advertisers may negotiate a sponsorship with a fixed payment and divide that payment by total exposures to calculate an effective CPM (eCPM). The process of associating a value to "action" outcomes, such as registration or purchase, that is correlated to the exposure is called "attribution." Often advertisers associate partial value to sequences of content exposures in a process called "multi-touch attribution." All of these metrics enable advertisers to perform analytics, generate insights and appropriately credit different publishers, technology, and data providers for the value generated via this process of matching content to people.

- Digital marketing measurement can be augmented by market research, surveys, and focus groups, as well as offline metrics, like in-store sales. These additional augmentations help to understand what campaigns worked or did not work as expected.
- Measurement is also an input into media planning, optimization for personalization, and media buying.
- Measurement is used as a currency for advertisers to pay publishers, it can also be used by either of the parties to ensure what is sold is not fraudulent, not delivered to non-human traffic, is viewable, and is delivered into a brand-safe environment. Hence measurement is critical for supply chains.
- Measurement is an input into use cases for understanding activity on advertiser's owned and operated properties, such as standard website analytics.

How it Works

- Campaign Set up: Advertisers first configure technology to capture data (e.g., tags in media, pixels on websites) and design their framework (test/control cells to read) to measure and evaluate people's interactions with the delivered content.
- Campaign engagement: During media campaigns and scheduled content on web properties measurement metrics feed content matching systems and algorithms that improve the effectiveness of matching content to people.
- Campaign Insights: Advertisers use measurement to understanding subsequent response rates associated with showing which permutations of audience, content, context, time correlate to advertiser success metrics
- Measurement Process:
    - Measurement requires a consistent cross-publisher ID to count the exposures and subsequent activities of people both across different publishers as well as on the advertiser's own properties.
    - Attribution uses this cross-publisher ID to credit the prior exposures to subsequent activities of people who generate marketing outcomes.

Identifier Dependencies

- Customer Experience
    - Understanding a user's preferences and how consumers respond to various experiences with a brand across paid and owned, is fundamental. Without measurement, and a lack of understanding of what elicits positive and negative responses from consumers, advertisers' valuation of return on ad spend will suffer, as will their revenue objectives. In order to execute a truly consumer-first business model, customer experience measurement has to measure the experience at the consumer journey level, as opposed to myopically only looking at tactics in general or alternatively analyzing data solely in aggregate.
- Functionality
    - Measurement requires a consistent ID to count or associate these activities and events across time and/or different media purchases to subsequent audience activities with the advertiser's own property. Challenges do exist with cross-device, offline activities, and even online closed-system measurement, but these challenges do not deter advertisers from using technology to improve the efficiency and effectiveness of their marketing efforts.

Variations by Geographic Region
Smaller countries have smaller populations than larger ones and thus physical data storage may not be commercially feasible or the cost of doing the measurement may be too high versus the cost of the campaign.

Smaller countries may benefit from sharing personalized matching of content based on how people in other countries interact with similar content.

Variations by Media Channel

- Browser-based media rely on pseudonymous IDs often stored in cookies
- Mobile device-based media rely on mobile advertising IDs generated by the Device OS.
- TV device-based media rely on device or network IDs generated by the OS, application, or network.
- Note: Directly identifiable ID use cases for direct mail, email, mms, call center are beyond the scope of this write-up

Onsite Analytics

Advertisers and Publishers operating a web-property seek to assess how users experience their onsite journey in order to improve its performance against customer experience and business goals. Onsite analytics provides important website interaction data that enables companies to identify problems, analyze A/B tests, and reinforce successful approaches in terms of site structure, design, and content.

How it Works
Users (i.e their technical representations: cookie, device-id, etc.) are associated with events (via the use of tags). These events and/or data are then leveraged to analyze user experience on the website and the website's overall performance, displaying metrics like session length, visit reoccurrence, steps required before purchase, average basket value, etc.

Many companies construct user journeys that cross multiple web domains. These different domains may feel seamless to the user but are required to deliver a complete and functionally rich user experience, e.g., from browsing to applying/buying to seeking support. It's important for onsite analytics solutions to be able to track users across these related web domains.

Identifier Dependencies
- Customer Experience
    - Users won't benefit from improved onsite experience
- Functionality
    - It will be impossible to tally events against an identifier since there won't be an identifier.

Variations by Geographic Region
None

Variations by Media Channel
Media channels that do not have a deep base of user-level identifiers won't be able to benefit from such analytics. Leaving Google, Apple, Facebook, and Amazon as the sole scaled beneficiaries as their user base is predominantly logged-in to their service.

Measurement: Stakeholder Perspectives

Consumer Perspective

Impression Counting, Viewability, and IVT:

- From a consumer perspective, the ability to accurately count impressions overall and those that are in view help prevent excessive interactions with ads that may become unnecessary. The value advertisers seek to provide to consumers can be lost as interactions can be seen as overzealous and annoying if they become repetitive and lack relevance.

Omni-channel Activation, Measurement, and Attribution:

- Omni-channel measurement helps advertisers better understand consumer behavior and response to determine the most impactful way to show consumers offers that are useful to them. This delivers a significantly higher level of relevance to each consumer, leading to an overall improved experience.
    - Personalization based on past behavior using algorithms and modeling to determine what products and content customers would be most interested in seeing based on past behavior
        - This will also allow for websites and app experiences to personalize experiences based on this activity, so when users return (but are not necessarily logged in) they can still see relevant products and content based on their previous activity
    - Personalization based on insights from other user behavior, creating an opportunity to show products and content to consumers based on insights learned from delivering similar messages to other people
        - Example: When buying a hammer, other customers also viewed nails, wood, and saws

Incremental Lift And ROI Analysis:

- Consumer Perspective, as mentioned above, consumers will eventually receive less free online content from publishers who don’t provide a registration/login identifier as those publishers are less able to monetize their inventory to large advertisers for brand-building campaigns.
- Customers will also receive more relevant ads, ensuring if they have purchased they can see other relevant products, products other shoppers bought or receiving reminders of deals if they have abandoned carts. It will also allow them to not be bombarded by ad messages that can’t be frequency capped after a desired action has been taken.

Measurement Calculates and Associates Sequences Of Events:
Personalization is the match of content to people in a manner that accomplishes the advertiser's goal. Advertisers need to be able to achieve personalization at scale, since focusing only on a small set of individuals is not cost-effective for most organizations. Personalization can match content based solely on pseudonymous data or on directly-identifiable data. Using directly-identifiable data for personalization requires consumer consent, which advertisers often rely on with improving their engagement with existing customers. Given the sensitivity of this data, advertisers are under more pressure to keep their customers' data safe. Recent press has given advertisers, and the ecosystem that supports paid and owned media, to better educate consumers as to how marketing operates as well as to enable advertisers to reconnect with customers in an accountable manner.. People want to keep their identity private and ensure that it is not used to embarrass or harm them. Thus, one of the core tenets of privacy involves protections against disclosure that would violate consumer rights. Privacy-centric business models are more than just opt-in and opt-out consent strings. Privacy-by-design, marketing that requires cross-publisher data collection, is a missed measurement model for those brands that engage in practices that violate trust. If advertisers cannot use data in appropriate and accountable ways, they risk alienating the very people they are trying to convert to be their customers

Building a trusted ecosystem is fundamental. At the core of this ecosystem is scaled engagement, measurement, and optimization which relies on cross-publisher IDs. People must get an appropriate exchange of value for allowing advertisers access to these IDs. Thus it is critical to explain the value exchange between consumers, brands, and publishers. People benefit indirectly from greater access to the wide diversity of content they can enjoy without direct financial payment as well as improved web experiences.

In relation to content, consumers are not involved with the pricing mechanisms that pay for their ad-funded access to content but do directly benefit from this ad-funded access to content. People may trust some publishers by authenticating and disclosing their identity, but advertisers require scaled measurement even across the publishers where people do not authenticate or the advertiser's own properties which often provide content without requiring authentication.

In relation to web experiences, consumers indirectly benefit from receiving more relevant content based on advertiser decisions that optimize the match of content based on either the same or similar audiences, prior interactions with either the same or similar content. See Personalization use cases for examples.

Onsite Analytics:

- Consumers are able to experience continually improved website design, navigation, and functionality at the publisher sites they visit and the company websites where they browse and shop.

Advertiser Perspective

Impression Counting, Viewability, and IVT:

- The related advertiser viewpoint is the ability to reduce wasted spend of impressions that may not be necessary for meeting intended objectives/KPIs. Marketing will become far less effective without an understanding of the reach and frequency of messaging across channels. The ability to accurately track impressions and measure reach and frequency becomes paramount necessitating change in technology infrastructure and processes to enable authentic counts across publishers in an open ecosystem.

Omni-channel Activation, Measurement, and Attribution:

- Marketing will become far less effective without an understanding of the delivery and the impact of advertising. Advertisers will have to spend more to achieve the same outcome. Advertisers won't be able to effectively attribute conversions, harming their ability to understand the value ads are driving for their business. Advertisers will be unable to utilize data and insights derived from previous campaigns to inform new campaign activity.
    - Business Outcome Reporting
        - This functionality would allow accurate reporting for the volume of sought outcomes (eg: conversions), usually from a third-party provider
    - Media investment efficiency / effectiveness (optimization)
        - Ensuring the correct channels receive credit for their contribution to driving the conversion is important to investment management
        - Channel mix is often optimized in real-time towards the channels and creative that are driving the most efficient desired actions. Without unique identifiers, advertisers would not know which channels, partners, or creative were responsible for driving customer action across the customer journey
    - Upsell / cross-sell functionality

        - Within e-commerce sites, the ability to add on products or services based on user actions is imperative to driving business growth and also creating a more holistic experience for customers
        - Without knowing what customers have viewed, put into shopping carts, and purchased, advertisers are unable to put together strategies for re-engaging lapsed users, remarketing cart abandoners, or upselling to users who have made purchases within certain categories

Incremental Lift And ROI Analysis:

- Control and exposed data is crucial to marketing optimization in several ways
    - Creative optimization
        - Understanding what creative customers were exposed to (or not exposed to) and what actions they took after is important to optimizing current and future creative
            - EXAMPLE: Do pictures of products, families, or babies do a better job of driving newsletter sign-ups or online purchases of baby formula? How many exposures of each or one drives the desired action most efficiently?
    - Frequency management
        - Ensuring customers are not being bombarded with the same creative over and over If a particular creative message didn't resonate with the customer to drive the desired action, sequencing in another message may do the job
    - Business reporting
        - Reporting on creative performance and attributing that back to business outcomes is important for future budgeting, investment planning, agency relations, and briefing
    - Appending of 2nd party and 3rd party data sources (eg: location data) to understand the incrementality
        - Having a unique identifier is critical to appending external data sources to our 1st party data to see, once exposed, did a customer go to a physical location (eg: store, restaurant) or using beacon technology, did they even go into the right aisle within a store
        - For loyal customers or brands that have high customer visitation, understanding baseline visitation is important to tracking incrementality. If a customer visits a store 3-4 times per week already, you need to know if your exposed audience sees a lift over your control audience; if so, your marketing was potentially effective

Measurement Calculates and Associates Sequences Of Events:

- Advertisers directly benefit from measuring content exposure and interactions in several different ways. Measurement provides advertisers an improved understanding and reassurance that they received what they purchased from publishers. Measurement enables them to detect and avoid fraud. Measurement enables them to compare the relative effectiveness of their marketing across different publishers as well as how relying on different methods to focus their investment can improve this effectiveness. Measurement provides accurate and timely inputs into the campaign optimization tools they rely on to match content to people. For example, measurement enables advertisers to improve the frequency of exposure across different publishers to improve effectiveness. Finally, measurement enables advertisers to associate the value they receive in return for their advertising investments.

Onsite Analytics:

- Advertisers are able to optimize their customer-facing websites to improve visitor engagement and conversion, leading to increased sales and customer satisfaction.

Publisher Perspective

Impression Counting, Viewability, and IVT:

- Excessive frequency driven by lack of identifiers limits the ability for publishers to enable the value exchange between advertisers and consumers. Users make the decision to come to publishers, which makes them (publishers) the gatekeepers of the experience between the customer and the advertiser. Consumers who see advertising as repetitive may avoid or spend less time on websites where this control is lacking, directly impacting the majority of publishers as they lack logged-in users (versus the walled garden publishers which can identify users within their own ecosystems).

Omni-channel Activation, Measurement, and Attribution:

- The lack of identifiers limits the ability to maintain appeal and demonstrate their value as an advertising medium. The open web experience will be impacted. The ability to personalize the experience on a page overall, including but not limited to the advertisements served. Creates a regulatory risk. Users make the decision to come to publishers, which makes them (publishers) the gatekeepers of the experience between the customer and the advertiser.
- In addition, if advertisers are only able to measure post-click activity, advertisers would most likely shift their dollars based on “last-touch”. This can result in advertisers deciding to move their dollars towards publishers that appear to be driving the most conversions. However, many advertisers

typically include post-impression in their attribution reports. This potentially could shift dollars towards bigger players/publishers in the marketplace, while sites that are not large in scale could see a significant drop in the number of advertisers on their site, as well as ad revenue. This causes a bigger burden and more pressure on the publisher to reduce their CPMs, and potentially see higher ad frequency on their web properties.

Incremental Lift And ROI Analysis:

- Publisher Perspective, Publishers without registration/login data will lose revenue from large brand-building advertisers as they will be less able to demonstrate that their inventory can deliver effective placement opportunities for those advertisers.

Measurement Calculates and Associates Sequences Of Events:

- Publishers directly benefit from measuring people's exposure to content and subsequent interactions. Measurement enables publishers to improve the relevancy of the consumer experiences they provide to their visitors. See Onsite Analytics and Personalization use cases. Measurement enables publishers to understand what content is more popular among given audience segments visiting their properties and hence produce more of this content that improves their business outcomes. Measurement enables publishers to attract advertising funding by providing information to advertisers about the audience composition and distinct reach their properties attract. Measurement enables publishers to monitor who well their website is performing. As with Advertisers, measurement enables publishers to feed automated systems to optimize the matching of content to people.

Onsite Analytics:

- Publishers are able to optimize their customer-facing websites to deepen visitor engagement with content, leading to increased ad and subscription revenue and customer satisfaction.

Data Partner Perspective

Impression Counting, Viewability, and IVT:

- Several data companies would likely struggle and go out of business. Since most of their revenue is based on the number of ads being served using their data sets and advertisers will lack the ability to accurately track usage, these companies would need to find alternative solutions and services, and completely require them to make significant changes to their infrastructure, technology, marketing positioning, etc.

Omni-channel Activation, Measurement, and Attribution:

- Data providers have always offered publishers and advertisers to scale audiences. Data Partners rely on the need to be able to link the data assets they have a license to process or distribute into the measurement ecosystem. Without compliantly linked identifiers, connection to the advertiser, publisher, and measurement data streams for measurement purposes becomes either extremely difficult or entirely non-functional.
- Several data companies would likely struggle and go out of business. Since most of their revenue is based on the number of ads being served using their data sets, by eliminating third-party cookies, these companies would need to find alternative solutions and services, and completely require them to make significant changes to their infrastructure, technology, marketing positioning, etc.
- Advertisers and publishers would not be able to find new prospect audiences and look-a-like models if these data partners were no longer in existence.

Incremental Lift And ROI Analysis:

- Being able to group customers into their activity level (eg: high engagement, frequent shoppers, etc) will allow for more personalization and relevant customer segmentation.

Measurement Calculates and Associates Sequences Of Events:

- Data providers often provide cross-publisher measurement and segment these metrics by categories of content, demographics, and time. Data Providers can enrich the analysis by providing more relevant subsections of the population that advertisers care more about as well as having mechanisms (id graphs, modeling capabilities) to scale/ complete the population sample/coverage that the identifiers are covering to represent the total selected audience.

Onsite Analytics:

- Data Partners are able to provide Advertisers and Publishers with deeper insights about which types of customers and visitors are having successful site experiences and which ones aren’t, via the licensing of user-level data, allowing those Advertisers and Publishers to optimize their site for the betterment of all visitors.

Technology Partner Perspective

Impression Counting, Viewability, and IVT:

- Technology partners provide the platforms and capabilities for tracking and managing reach and frequency across channels and devices. The data they collect enables bid decisions, campaign optimization, audience insights and measurement, and ultimately which publishers to serve ads on. Absent their ability to guide advertisers' decision-making, the impact on their value proposition and thus, revenues will be extreme and will mitigate the overarching need for some of these firms to exist.

Omni-channel Activation, Measurement, and Attribution:

- Technology partners often provide the means and platforms for appropriate alignment of addressable identifiers (identity resolution). Impact on their business objectives and revenues will be extremely impacted and will mitigate the overarching need for some of these firms to exist.
- Many technology platform companies collect data to make bid decisions, create algorithms to optimize media campaigns, remarket/retarget audiences, and report on what publishers/sites are generating conversions.
- In addition, technology partners use third-party data to manage ad frequency, provide audience insights, and manage which publishers to serve ads to for brand safety and ad verification purposes.

Measurement Calculates and Associates Sequences Of Events:

- Technology providers enable publishers and advertisers to improve the planning, engagement, measurement, and optimization of their businesses.

Onsite Analytics:

- Technology Partners are able to provide digital content and marketing services and solutions (e.g., planning, execution, and analytics) that have greater business and customer impact by incorporating website customer experience data.

Measurement Partner Perspective

Impression Counting, Viewability, and IVT:

- Measurement partners must enable a solution that allows for accurate reach and frequency or the ability to maintain the contract of trust we are aiming for between consumers and advertisers erodes. Consumers who don't expect to still be contacted may still be across disparate publishers in their online journeys. Accurate reporting and measurement is crucial for publishers to ensure they optimize the right content and ad load balance to retain audiences.

Omni-channel Activation, Measurement, and Attribution:

- Measurement partners are often dependent on linking external data sets from advertisers, publishers, and data partners with their own captured data (through technology/tracking mechanisms and/or proprietary panels). The ability to provide “holistic” measurement output across multiple partners/publishers and data sets will rely more on modeled and estimated analytic methods vs. “true” measurement as the ability for identifiers to remain consistent (or be linked/stitched together) becomes mitigated.
- Without identifiers, most methods of measurement become last-click, which does not always correlate with advertiser business objectives and can provide false incentives. We lose the ability to understand the customer journey and measure the value of our interactions, both paid and organic. We need to know what points of a journey yield the highest return. We need to know the role we play within the path based on consumers’ opt-in/opt-out rate. We lose the ability to know where our messages are helping consumers. We lose the ability to know what tactics are most valuable, but also what customers are most valuable. Impact on messaging: how do you know what messaging works where.

Incremental Lift And ROI Analysis:

- Measurement partners will not be able to conduct exposed vs non-exposed studies for publishers who are not able to identify exposed/non-exposed and they will have to invest in new methodologies to facilitate this work. This will lead to decreased revenue and increased R and D investment required to replace this capability.

Onsite Analytics:

- Measurement Partners are able to offer publishers and advertisers a robust solution set for understanding customer segments, engagement, satisfaction, and value by including customer website experience data and analytics in their offerings.

Legal Ethical and Regulatory Considerations

Impression Counting, Viewability, and IVT:

- Monitoring, measurement, and reduction of IVT should remain paramount throughout changes to the digital ecosystem as fraudulent data devalues the relationship between advertisers, publishers, and consumers.

Omni-channel Activation, Measurement, and Attribution:

- While measurement workstreams do not directly impact Legal and Compliance groups, the means of how the data was captured and leveraged for measurement purposes is directly linked. Legal and Privacy teams will require demonstrated consent for the identifiers leveraged in a measurement system, and if aggregated (non-individual) measurement is completed that the seed for the aggregated data was collected in compliance with internal and external regulatory policy.

Incremental Lift And ROI Analysis:

- As measurement companies will not have any personally identifiable data beyond an exposure identifier, and the use case is simply sending or placing a survey in front of exposed and randomly selected users, the legal considerations are few. Consumers can decide if they want to complete the survey and should have the ability to opt-out of all surveys in general or all surveys related to a particular brand or publisher or measurement service.

Measurement Calculates and Associates Sequences Of Events:

- People have higher concerns around directly identifiable than pseudonymous use cases.
- People should have the ability to opt-out of personalized matching of content when tied to pseudonymous ID, but opt-in to directly-identifiable IDs
- People should have the ability to reset their ID (e.g., exercise the right to be forgotten)
- Publishers should have a choice on which supply chain vendors they work with which requires an interoperable ID.
- Smaller publishers should have the choice to band together to offer people and advertisers solutions that often require sharing scaled information to improve the matching of content to people.
- Advertisers should have a choice on which supply chain vendors they work with which requires an interoperable ID to plan, engage, measure, and improve/optimize the matching of content on their property as well as across the paid publisher properties they advertise on.

Onsite Analytics:

- Onsite analytics relies on persistent anonymous user-level identifiers to work effectively and therefore should be subject to customer visitor transparency, consent, and choice requirements and principles.

Section 1.4

Optimization

Content Optimization

Content Optimization is a parent category that covers how the content that a consumer interacts with changes, or is optimized, based on attributes or predictions of the consumer's preferences. Today, this means rendering or optimizing a given consumer touchpoint based on any information about the user and/or the context in which the touchpoint occurs. The benefit of content optimization is that when content is tailored to the user's preferences, the user tends to respond more favorably, and thus the advertiser has the potential for more efficient advertising.

Customers expect their digital experience to be smarter. They want personalization but are wary of sharing their data. The challenge for advertisers is "knowing" their customers based on their digital history and activity without actually knowing them.

Advertisers need to deliver consistent offers and content across all mediums: digital, direct mail, etc. Relevancy increases the probability of consumption, reducing the need to over-deliver messaging, which creates more waste for the advertiser and annoyance for the consumer. The measurement of whether the advertiser has succeeded is an important signal to remain respectful to the consumer journey, e.g., suppressing converters and managing frequency of exposure). Customers get frustrated when they see information that is conflicting. There needs to be consistency in every engagement that they have with the brand. Identifiers make all of these objectives possible.

The joining point where advertisers meet consumers is typically within a publisher partner environment. The three parties share the same interest in enabling the most respectful, relevant experience possible for consumers, which is good business for the publisher and advertiser.

Enabling relevancy are technology infrastructures that connect consumer response through data signals shared between consumers, publishers, and advertisers. With today's technology, this infrastructure must be enabled in a privacy-preserving manner with consumers always at the helm of controlling how their data is used – in a simple and scalable mechanism. Understanding what is relevant to a consumer should take into account signals from their public journeys otherwise creating blind spots that annoy the consumer by not respecting their past actions.

Education and collaboration between the parties that benefit in creating a better digital future – starting with consumer, publishers, advertisers, technology and data infrastructure providers (i.e. browsers and operating systems) and the regulatory bodies that aim to protect the consumer – requires thoughtful leadership and uncommon collaboration that has not yet existed.

This collaboration must start now if we hope to harmonize developing technology with flavors of emerging regulation that are becoming increasingly pervasive in the court of public opinion, which may not be forming accurately.

How it Works

Think about how customers would expect a salesperson to treat them, and what they would expect that salesperson to reasonably know about them as a customer, without the creepiness factor. It's about the selection and also suppression. We need to serve people ads for the things they need and want, but we also need to be able to stop advertising to people for things after they've already converted. People want relevant experiences.

The best data for re-engaging existing customers or prior site visitors is first-party data. If first-party data is not available, such as for prospecting, advertisers need to work with partners who are trusted to meet industry and governmental regulatory standards.

Identifiers are being challenged because personalization is not understood. Lack of consumer understanding of personalization is leading to push-back on data sharing. No one is taking the onus to educate the public on personalization. Privacy is a hot topic that people are worried about, but brands need to be able to educate their consumers.

There needs to be a solution to meet publisher, advertiser, and consumer needs.
One of digital's benefits is the ability to measure at a granular level which improves advertisers' ability to focus their media spend, but that will change with the elimination of identifiers.

A consumer cost-related challenge: If the advertiser isn't able to identify likely customers and drive high conversions, the overall cost of Consumer packaged goods (CPG) could increase.

An additional consumer cost-related challenge with far-reaching impact is the option of free digital products and content funded by ad dollars, versus subscription-based premium digital content without ads. (Spotify

vs. Spotify Premium, Hulu Ads vs. Hulu without ads, etc.) The separation of the two limits the access of people without means and creates a bifurcated digital experience.

The relationship between the advertiser-funded experiences and consumer benefit is vague for consumers at best. Clarifying this value exchange and providing education on how it is deployed could benefit all parties. Once informed, the challenge is to make the opt-in/opt-out process respectful, manageable, and updatable over time.

Identifier Dependencies

- Customer experience
    - Frequency capping becomes more difficult or impossible, creating a sub-optimal experience that may be annoying to customers
    - The relevance of customer experience will suffer
    - Holds the customer back from discovering something really useful to them
    - Potentially limits customer access to content if subscription-based becomes the prevailing model over ad-based
    - Potentially creates inflated prices if advertisers have to spend more to reach their audience
- Functionality
    - Platforms and media channels can't communicate with one another
    - We lose the context for consumer behavior, the ability to see prior actions and understand what behaviors lead to conversions
    - We lose the ability to measure the effectiveness of our partnerships and digital advertising campaigns
    - We lose the ability to monitor the frequency and understand how it affects behavior
    - Becomes very difficult or impossible to create lookalike models

Variations by Geographic Region

Regulations change depending on location. (GDPR, CCPA, etc.)
The user experience with a brand can be broken when they receive messaging that is irrelevant to them based on their physical location. For example, getting an ad for a restaurant that is 40 minutes away, or for clothing not appropriate to their climate.

Variations by Media Channel

On the website, off-website, in person, programmatic; all channels are affected.

Subcategories of content optimization include:

Sequential Messaging

Sequential messaging is a delivery strategy in which ads are served to a user in a specific order. It enables personalization across the consumer journey to ensure a relevant destination/landing page experience. It is coordinated across various consumer marketing touchpoints, channels, and partners. Sequential messaging enables dynamic creative optimization (DCO) and omnichannel activation to take into account the consumers' previously expressed interest, need, and exposure to the brand. It allows for advertisers to get greater returns of investment and effectiveness out of their non-working media dollars such as creative, content, and technology development. It also allows for richer consumer experiences on small to mid-size, high quality, and relevant publishers; by allowing these experiences to occur cross sites.

Contextual Audience Selection

As opposed to the user or custom audience selection as defined above, contextual advertising is the process of deploying an advertisement based on the context in which the ad will be served. This determination can be made based on many different factors including the endemic nature of the publisher overall relative to a brand (e.g., pharma ads on healthcare publishers), the words or content adjacent to where the ad is delivered (e.g., CPG ads next to content that contains 'cooking' in the body), or general attributes about where the event is taking place (e.g., time of day, geography, device OS, etc) - these factors can also be used to exclude pages (or proxies thereof) based on context (e.g., avoid serving credit card ads next to an article about credit card fraud). The business assumption underlying this is that contextual relevance can be used as a proxy for the user's interest in the ad or message being delivered.

Contextual advertising is a strategy that advertisers have applied since the earliest days of mass media. It's effective in markets where the consumer's profile information is unknown, or when a media buy is more focused on the context of where ads are served. Contextual classification of data can either focus on publisher content or categorization by device data.

Advertisers can use publisher content as a proxy to select audiences on properties where that content is over-indexed. For example, advertisers might place ads for cars on a car review site, assuming that such publishers over-index on-site content for users most likely to buy a car. While the loss of identifiers is not

directly impacting the practice of contextual audience selection, it is however not a scalable substitute across all marketing campaigns and brand needs. The loss of additional context from identity-based signals across the consumers' journey is not replicable via contextual audience selection alone.

Advertisers can select certain types of content categories at scale by working with partners that maintain and pass contextual classifications in real-time bidding. These contextual classifications can be sourced by a publisher in one of two ways:

- **Standardized Taxonomy ID:** publishers tag their web page content directly. Look up IAB Tech Lab's Content Taxonomy 2.1 for more information.
- **Third-party classification:** publishers and advertisers can work with a number of third parties that maintain contextual classifications as a value add service.

Consumers benefit from discovering products, solutions, offers based on their content consumption. However, with the loss of identifiers, the frequency is going to increase significantly for the same audience across different content sites/publishers.

Third-party platforms that do classification have developed proprietary approaches to describing the "aboutness" of a website using a combination of ongoing semantic analysis, collection of site or app categorization data, user/agent metadata, and other techniques. The output of these types of services is a tool that can determine a "buy/no buy" decision - or influence bid price - for advertisers based on a defined set of contextual parameters, brand safety, and fraud filters.

This process is aided using device data classification, which is related to contextual audience selection. Device data is commonly called contextual data as it defines the context of a device or a single moment in time. Some defining factors might include the geographical location of a device, the time and date, categories of OTT content, device sensor states, etc. No cross-device knowledge or identifier is needed to use device data in contextual audience selection.

Identifier Dependencies
Browser, device, and/or user IDs are generally not necessary for contextual audience selection, given that the logic is focused on metadata associated with inventory analysis. Device data pulls information from a single device for a given moment in time, which also does not require an ID for audience selection.

While the ability to select audiences itself is minimally impacted, measuring the resulting impact is directly affected by the use of identifiers. Without identifiers, advertisers can't drive a unique, measurable online event that could otherwise be optimized using conversion measurement. When goals are more focused on delivery-based KPIs (a certain impression or investment volume per contextual channel) there is minimal reliance on identifiers.

Content Optimization as a whole is impacted by the deprecation of identifiers by removing the concept of the user's preferences or behaviors, which are often the premise of how content is optimized - as well as any concept of the sequence of behaviors that a user took. As an example, it would no longer be possible to serve a given creative or render a webpage based on a knowledge of the user's attributes, as the user ID is not persistent. However, context-based optimization techniques should still apply. For example delivering a personalized ad based on a user's declared, predicted or inferred preferences is no longer possible if user identifiers go away, as there is no concept of the user. Conversely, any content optimization activities that focus on the context in which the content will be delivered will persist beyond the deprecation of identifiers, an example of this is optimizing a given message, site, or ad-based on time of day, weather, or the content on the webpage.

Identifier dependencies on subcategories are as follows:

- **Sequential Messaging**: A sequential ad rotation can only be served to users who accept identifiers because the ad server needs them to determine which creative a given user has previously seen in the sequence and which one should be shown next.
- **Site Personalization**: Without identifiers to distinguish unique visitors to a page, advertisers will be unable to link an unauthenticated site visit to a customer profile within their CRM or an audience profile within their site-personalization management platform. Currently, cookies and MAIDs provide the necessary consumer-level attributes to identify the demographic, behavioral, or geographic attributes of a visitor. Advertisers will need to require all returning customers to authenticate their identity or use contextual signals for un-identified visitors to enable site personalization.
- **Contextual Digital Advertising**: Browser, device, and/or user IDs are generally not necessary for contextual digital advertising, given that the logic is focused on metadata associated with inventory analysis. Device data pulls information from a single device for a given moment in time, which also does not require an ID for audience selection. While the audience selection itself is minimally impacted, measuring the resulting impact is directly affected by the use of identifiers. Without identifiers, advertisers can't drive a unique, measurable online event that could otherwise be

optimized using conversion measurement. In short, advertisers would not be able to understand which contextual topic is most effective at achieving their performance or brand-related goals. When goals are more focused on delivery-based KPIs (a certain impression or investment volume per contextual channel) there is minimal reliance on identifiers.

- **Personalization Based On Predictive Models**. Just as with personalizing content to a user's interaction with the advertisers' own web property, matching relevant content across different publisher properties often relies on predictive modeling.

Variations by Media Channel

- Contextual Advertising contains the following variations based on media channel:
    - Web/Browser - Data is mostly used to segment online behavior. IAB categories are limited to self-declared categories rather than the custom classification that includes the full content of the page.
    - Video - Analysis techniques to derive metadata that range from direct inspection of video image/audio to semantic analysis of textual metadata only - title/description/comments/CC feed.
    - Mobile App - Less commonly captured and classified. Dependent on developer self-disclosure during app development.
    - OTT and Audio - Focused on categories such as genre, day-part, rating, etc.

Common Semantic Analysis Models/Artifacts Can Include

- General
    - Primary
        - Keywords
        - Entities
        - Topics - IAB/IPTC
    - Secondary
        - Sentiment
        - Psychographics - tone/emotion
- Specialized
    - Seasonal affinity
    - Vertical-specific models - e.g., political party affinity

Ad Exposure Frequency Capping

Advertisers use frequency capping to suppress the number of ads shown to a user while increasing the number of users who see the ad (reach).

People dislike highly repetitive ads. Studies show that the effectiveness of an ad decreases as the frequency increases. By capping the frequency of an ad served to one user, advertisers can use the ads not served to reach more users. This concept is the balance of reach and frequency (RandF).

To cap the frequency of an ad, advertisers' systems need an identifier to keep track of how many times the ad was served to a single user associated with that identifier. Once the system has reached the specified cap, a different ad will be served. The frequency cap becomes part of the complex algorithm that determines which ad to serve next.

Marketing has been proven to be more effective with additional exposures and to be less effective past a certain number of exposures to the same person. Consumers may not recall an ad after only seeing it once, but also feel annoyed or have negative experiences when they are shown an ad too many times in a short period. (For instance, see https://iabeurope.eu/blog/member-research-campaign-overexposure-has-negative-impact-on-branding-performance/ or https://www.warc.com/newsandopinion/opinion/the-risks-of-over-exposure-how-ad-bombardment-promotes-consumer-mistrust/2998)

Advertisers rely on this feedback signal of action or inaction to help determine whether someone is still interested in an offer. Since advertisers still pay for ads even if a consumer has shown they are not interested due to a lack of response, this also results in wasted dollars by brands. They also use this data to understand the efficacy of marketing channels in reaching relevant audiences at a frequency that will result in optimal brand perception. Not having the ability to effectively cap ad exposure results in poorer user experiences due to potential overexposure and result in the display being a less effective channel, reducing investment into ad-supported digital content.

How it Works

Media buying platforms use identifiers (such as cookies, MAIDs, device IDs, etc) to count how many times a person or device has seen the same ad. Advertisers can set a limit to how many times the same device or person sees the same ad within a certain time frame (such as within an hour, day, week, or even months). Platforms will not serve the consumer an ad if they have already hit their cap on exposure, as set by the advertiser. They may also use probabilistic or deterministic (with users who agree to provide an anonymized email hash to identify them as the same person across devices) to set a cap at a person level across devices to provide even better consumer experiences in regards to ad exposure caps, as more consumers use multiple digital devices with greater frequency. Advertisers are incentivized to set the cap such that it will result in the most positive brand experience for the consumer so as not to waste dollars and negatively impact brand performance.

Without a stable identifier, the advertiser runs the risk of serving ad impressions to the same user too many times, or to not serve advertising to them at all. In either case, it would result in a lost opportunity to show the consumer a relevant offer. Measurement algorithms that rely on cookies / current identifiers will not be able to properly attribute impressions to consumer actions and therefore lead to the lower effectiveness of ad dollars. Publishers may also suffer from poorer user experience due to consumers seeing the same ad too many times on their content and having a negative association as a result. In turn, this can potentially impact publishers' ad and subscription revenues. And consumers may either miss out on relevant offers or have a poor experience due to feeling annoyed by seeing the same offer too many times.

Further, it is possible that advertisers may be hampered in fulfilling legislative requirements of CCPA, GDPR, etc. if their ability to identify and track impressions served to consumers is limited. For e.g, a consumer exercising their "right to request" data might receive incomplete information from the advertiser, thus exposing the latter to reputational risks.

Identifier Dependencies

- Customer Experience
    - Consumers may feel annoyed and frustrated due to a negative experience after continuing to see the same ad too many times
    - Holds the customer back from discovering something that could be useful to them If the ad cannot serve due to an inability to frequency cap
    - Consumers may be less drawn to consume helpful content and information on digital properties due to poor ad experiences

    - Potentially creates inflated prices and decreased investment in ad-supported digital content if advertisers waste money against ads they have already shown to the same person too many times to be effective
- Functionality
    - Platforms can't serve ads to users for which the advertiser would like to set frequency caps
    - Platforms cannot effectively count the number of ad exposures, leading to overexposure against the same device or consumer
    - Platforms cannot provide reporting to the advertiser on the number of ad exposures to the same device or person so advertisers cannot measure the effectiveness of their ads at reaching consumers or understand at what frequency is their advertising most effective for sales, brand performance, and consumer experience
    - Advertisers cannot measure how many people saw their ad, so they do not know whether they should invest more or less to reach their total target audience

Variations by Geographic Region
Regulations change depending on location. (GDPR, CCPA, etc.)

While current legislation allows for this use case, the loss of stable identifiers, such as cookies and MAIDs, would result in the above dependencies across all geographies

Variations by Media Channel
Browser environments (display, online video), mobile. Person-level frequency capping would be broken across all addressable media channels (digital audio, CTV, display, video, mobile, etc)

Training Machine Learning Models

Using data about people's activity to power machine learning models that 'learn' what kinds of ads and content people would be most interested in seeing.

A machine learning model labels different outcomes (e.g., purchase, view, click) and predicts the likelihood of those outcomes. Models use training data to improve prediction accuracy.

"Personalize" the machine-learning model to take advantage of an advertiser's first-party data set. For example, a base machine-learning model that focuses on a sales conversion could ingest first-party transaction data from a retailer to further enhance the output and optimizations of that model to the business needs of the retailer. The value exchange between platform and advertiser then becomes clearer: platform benefits by having a more intelligent model that ultimately delivers a better user experience, and retailer benefits by optimizing their investments towards audience/tactics that best deliver against their ultimate KPI.

Identifier Dependencies

- Customer experience
    - Machine learning models degrade, resulting in a less personalized user experience.
- Functionality
    - Cannot connect data to an individual to understand outcomes, therefore ability to predict outcomes is constrained or removed entirely - negatively impacting things like ad performance, measurement and personalization.

Variations by Geographic Region

Privacy legislative regimes must apply - e.g., opt-out for CCPA, opt-in for GDPR - meaning that data's inclusion in ML models must honor that region's privacy regime.

Variations by Media Channel

Machine learning tends to only be used on digital formats by nature, so the easiest way to slice this is digital vs traditional media formats. The impact of ID deprecation on ML by media channel is that digital channels are impacted since they use ML, while most traditional formats are unimpacted. There is some crossover in the DOOH and advanced TV spaces, where ML is at times used for optimization/personalization.

Optimization: Stakeholder Perspectives

Consumer Perspective

Ad Exposure Frequency Capping:

- The ability to manage the frequency of exposure to an ad message has a significant impact on the consumer experience. In the absence of proper technology to manage frequency, consumers may be inundated with repetitive exposure to the same advertising message. This can prove to be a sub-optimal experience that may negatively impact the consumer's perspective of the advertisement and/or the content/platform in which the advertisement is placed.

Website Content And Ad Personalization

- Personalization enables consumers to find and discover the content and offers that are most relevant to their needs and interests, quickly and easily.

Training Machine Learning Models:

- Less-personalized ads in general, and in some contexts also less-personalized experiences on publishers/content. Conversely, consumer data is less-useful at scale due to ID deprecation, so while personalization decreases, perhaps the perception of privacy is enhanced.

Advertiser Perspective

Ad Exposure Frequency Capping:

- Advertisers seek to optimize their media investment across all channels and platforms. This optimization focus also includes the ability to manage the frequency of message delivery to individual consumers. Advertisers want to reach consumers a minimum number of times to effectively impact consumer perceptions and actions, however, advertisers also want to manage against the excessive frequency of messaging to individual consumers. Advertisers rely on technology to help manage these frequency needs in order to: 1) effectively optimize their investment to optimal frequency levels, 2) manage toward a minimum frequency level that will impact consumer behavior, 3) manage against the excessive frequency of message to individual consumers that may negatively impact consumer perception of their brand.

Website Content And Ad Personalization

- By giving people a more relevant experience, personalization drives improved engagement with content and advertising, thereby boosting relevant business outcomes such as leads, sales, customer satisfaction, and brand perception.

Training Machine Learning Models:

- Places full onus on 1st party data for reaching consumers - leading to a bifurcation of advertisers who have or don't have sufficient 1st party data. Also, advertising as a whole becomes less efficient, meaning a greater percentage of advertising spend is 'wasted' on inaccurate audiences.

Publisher Perspective

Ad Exposure Frequency Capping:

- Publishers may also suffer from poorer user experience due to consumers seeing the same ad too many times on their content and having a negative association as a result. In turn, this can potentially impact publishers' ad and subscription revenues.

Website Content And Ad Personalization

- By giving people a more relevant experience, personalization drives improved engagement with content and advertising, thereby boosting revenue, monetization efficiency, customer satisfaction, and repeat engagement.

Training Machine Learning Models:

- Places full onus on 1st party data for optimizing content for consumers, ultimately leading to inferior experiences for consumers, and revenue impact for the publisher.
  Macro context: Bifurcates the data 'haves' and 'have-nots'

Data Partner Perspective

Ad Exposure Frequency Capping:

- In the absence of technology that can effectively manage frequency, data and technology partners will be challenged to provide reporting to the advertiser on the number of ad exposures to the same device or person, and as a result, advertisers will not be able to measure the effectiveness of their ads at reaching consumers or understand at what frequency is their advertising most effective for sales, brand performance and consumer experience

Training Machine Learning Models:

- The impact is two-fold. 1. Lack of track-ability across sites leads to siloed data sets that cannot easily be used to make predictions across data sets. 2. Relative data scarcity potentially impacts the viability of a data partner's business model entirely, unless they have a strong 1st party data or product offering.

Technology Partner Perspective

Training Machine Learning Models:

- Buy-Side: Decreased data to decision on potentially yields inferior advertising performance, unless that platform has a strong 1st party data asset.

- Sell-Side: Given a closer relationship to the originators of data (publishers), sell-side technology platforms potentially play a larger role in machine learning/audience selection via the population of oRTB fields, to in turn be read by the buy-side. This means that sell-side platforms play a larger role in 'advertising performance'.

Measurement Partner Perspective

Ad Exposure Frequency Capping:

- Measurement algorithms that rely on cookies / current identifiers will not be able to properly attribute impressions to consumer actions and therefore lead to the lower effectiveness of ad dollars. Measurement partners require a reliable, persistent identifier to track the frequency of exposure in order to maintain a reliable and consistent frequency data stream that underpins their measurement models and algorithms.

Training Machine Learning Models:

- Measurement partner's ML is directly impacted due to loss of identifiers for ad personalization use cases, given they can no longer report on reach or frequency metrics. Moreover, identifier deprecation causes measurement companies to lose the ability to collect data (exposure, conversion). Additionally, the feedback loop is broken.

Legal Ethical and Regulatory Considerations

Ad Exposure Frequency Capping:

- Consumers should be able to provide a feedback loop, either through their behavior or explicitly if they do not wish to see an ad again.

Content Optimization:

- Content optimization has the same ethical and regulatory considerations as other forms of custom audience-based media. These considerations still apply when content is optimized using non-addressable identifiers, such as match advertising to a person's current context.
- At-risk groups. For example, people who are underage or have self-identified as struggling with addiction being served ads for alcohol, casinos, etc.

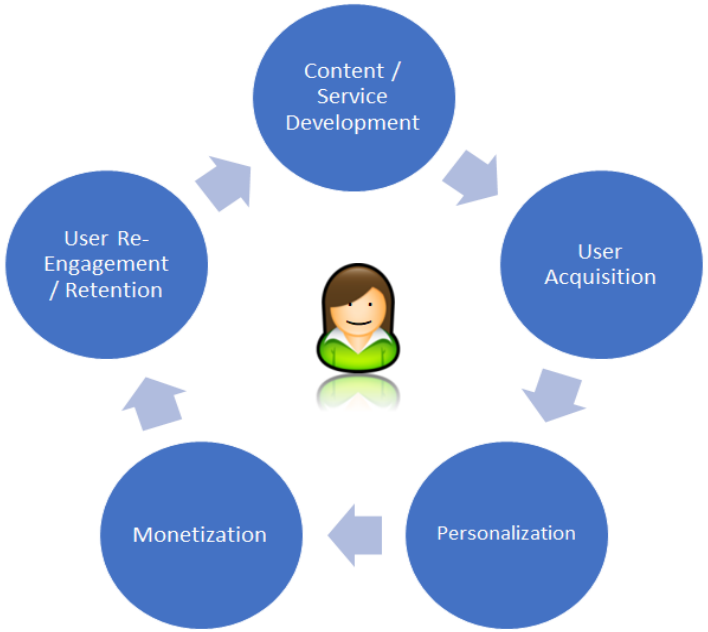
Training Machine Learning Models:

- Most existing privacy legislation explicitly allows for the use of digital identifiers for advertising and in turn ML to improve ad performance, so the argument could be made that the deprecation of IDs undermines existing privacy legislation.
- Data collection still continues (1st party ID space as an example), so this is less a question of whether the data is collected, and more a question of how the data can be used. So, it's entirely possible that from a regulatory standpoint there are no changes to the data collected, just its potential utility - creating a deadweight loss for consumers and advertisers. It's possible, given that consumer data is collected either way, from a legal/regulatory perspective it's preferred that the data is used to enhance the consumer experience as much as possible.
    - Essentially, it's a trade-off between data portability and consumer privacy, which must be viewed through the lens of the region's privacy regime.
- Opt-in vs Opt-out:
    - If a user explicitly opts-in to tracking/ads because they desire a superior digital experience, does the deprecation of IDs undermine that user's privacy preferences?
    - Conversely, if a user is not adequately aware of their ability to opt-out, then is the default inclusion of their data in ML models ethical?
    - Do consumers lose value if they're not receiving personalized/relevant messaging from brands?

Section 2: Publisher Business Use Cases

The publisher business model generally involves the following core life-cycle activities, each with its own set of distinct business activities. For this reason, it is being used to categorize the following publisher priority use cases developed as part of the IAB Tech Lab Project Rearc Working Groups in 2020.

- Content/service development
- User acquisition
- Personalization and delivery
- Monetization
- Re-engagement and retention



Section 2.1

Content/Service Development

Publisher business models succeed or fail based on the popularity of their content and services, the user engagement it drives, and the resulting breadth of their general audience and subscriber base. To attract and sustain this base, the publisher must develop content or a service they can offer. They must continuously develop, maintain, and modify the content and services they offer based on what is popular with their audiences.

The better the publisher can understand user engagement across multiple sessions and their interests, the better the publisher can focus its content development efforts. The publisher may collect data on what their audiences like, or the data may be collected by a third party.

Besides the actual development of content or services, the distinct business activities that drive development include:

- Audience analytics
- Content management

Audience Analytics

Audience analytics is the process of collecting and evaluating user interaction data. This helps publishers understand their audiences and how they interact with their content/services, and provides publishers the critical data needed to optimize content/service development, consumer experiences and engagement, revenue, and new user acquisition.

Every publisher utilizes audience analytics to optimize not just content/service development, but their entire business life-cycle -- from user acquisition and monetization to user re-engagement and retention. However, at the heart of audience analytics is the need for publishers to understand their audience.

When it comes to developing content and service offerings, audience analytics includes the ability for publishers to learn:

- What external sources or experiences are driving traffic?
- What are the common behaviors, interests, and demographics of my audiences?
- How are audiences engaging with my content or using my services?
- What granular details can show me what's working vs. what's not working?
- Given those granular details, what specific optimizations will improve engagement?
- What opportunities exist to increase and strengthen my audiences?

All of these findings direct what content or service offerings publishers develop, modify, and maintain and identifiers are necessary for collecting this information.

To collect data, publishers place a script on all their pages for a website. For a mobile app, publishers use an analytics SDK. As site visitors access and interact with the content/services, signals are sent to the analytics software platform which is then aggregated for reports.

Most publishers work with third-party vendors for analytics because writing all the necessary code is resource-intensive.

Loss of Identifier Impact
Without identifiers to distinguish unique visitors to a page, publishers can't sort out the demographics of their audiences and what appeals to some users while ignored by others. Publishers have limited options for collecting audience data that offers the kind of details needed to optimize development for their content or service offerings.

Content Management

Content management is the process of working with a system of operations and tools for managing the generation, categorization, and display of assets. The workflow and approvals for the content developed can also be managed using these tools.

Loss of identifier impact
While identifiers are not directly involved in the process of content management, the delivery of personalized content, which is managed using a content management platform, is directly impacted by the loss of identifiers.

Section 2.2

Audience Acquisition

Publishers rely on a variety of strategies and tactics to attract new audiences, on top of and incremental to organic audience growth. These audience acquisition strategies can include paid tactics (advertising, paid placement, search engine marketing, etc.) and “earned” tactics (SEO, social, etc.). Each user acquisition method is continually evaluated for effectiveness, generally by measuring the cost of acquisition against the lifetime value of those acquired.

Distinct business activities include:

- Search engine optimization (SEO)
- Search engine marketing (SEM)
- Advertising
- Social media promotion

Search Engine Optimization (SEO)

SEO is a set of methodologies for using organic, unpaid search results to drive traffic to publishers' content/service offerings.

Most search engine results include both organic listings optimized for end-user relevance, and paid/sponsored listings optimized for advertiser results and search engine revenue. SEO operates on organic listings for end-user relevance.

SEO refers to the highly complex, competitive, and evolving set of strategies, techniques, and best practices to optimize website architecture and content for achieving a favorable listing in the search engine results page (SERP). The closer a publisher is to the first few listings in the SERP for a given search term, the more organic interest they drive to their content and services.

Done well, these organic search engine results help increase the quantity and quality of traffic to a publisher's site. The benefit of SEO is that the listings are not paid placements and instead optimized for relevance.

Search engines operate by gathering large amounts of information, indexing that information, and then using proprietary algorithms to optimize the search results for end-users based on relevance.

Several factors go into a search engine's algorithm. SEO is the art of understanding and manipulating those factors so that a publisher's page is listed favorably within the SERP, thereby earning as much organic interest as possible. This interest is tracked in terms of site visits, app downloads, and others.

In ad interactions, search engines use ranking signals related to user behaviors. These signals might include web analytics beacons, browser-based data collection, and the retrieval of content that may be hosted on content delivery networks (CDNs) owned and operated. SEO can be a highly effective and lucrative strategy for audience acquisition, which is why the science and art of SEO is so highly competitive. While identifiers are not directly used to achieve favorable results, the search engines need identifiers to drive relevance for users and modify proprietary algorithms as needed.

Loss of Identifier Impact
Since SEO operates on-page content strategies, identifiers only play an indirect role in what content the publisher decides to develop.

Search Engine Marketing (SEM)

SEM is a set of methodologies for using paid placements within generated search results to drive traffic to publishers' content/service offerings.

Most search engine results include both organic listings optimized for end-user relevance, and paid/sponsored listings optimized for advertiser results and search engine revenue. SEM operates on the paid/sponsored listings.

SEM involves the highly complex, competitive, and evolving set of strategies, techniques, and best practices for achieving a favorable sponsored listing in the search engine results page (SERP) while minimizing the related cost of sponsorship. Done well, SEM increases the quantity and quality of traffic to a publisher's page. Efforts are typically measured like other paid audience acquisition tactics, by comparing the following:

- **Cost per acquisition** - How much was paid on average for each "conversion" event, which might include a click, a download, a registration, or whatever the publisher defines as a conversion based on their revenue model.
- **Life-time value** - How much does the publisher typically earn over the average lifetime of a typical acquired user?

Unlike SEO where a user clicks on the "organic" results for a search query, in SEM the user clicks on the sponsored links (ads) listed among the organic search results. The sponsored links are sold by the search engine typically using real-time bidding (RTB). The winning bid gets the most prominent position among the sponsored links.

Advertisers measure the ROI on their advertising spend by measuring the outcome of each impression: impressions are better than no impression, clicks are better than just impressions, and conversions (or completion of pre-defined actions) are better than just clicks.

Publishers using SEM to build their audiences use identifiers to follow a new user at each stage of the conversion funnel for two reasons: to identify what drove the user to complete an action and to attribute credit (and payment) to the appropriate parties.

Loss of Identifier Impact
In SEM, all marketing campaign optimization relies on attributing a consumer action (visit, purchase, app install, etc.) to a marketing event. SEM would be impossible without identifiers.

Note: For SEM tools tied to large first-party organizations like Google, Facebook, Amazon, and others, insights about consumers are easy to aggregate because of their direct relationships with them. These larger organizations are less impacted by the removal of identifiers and achieve an advantage over SEM tools tied to smaller data sets.

Advertising

Advertising is the process of providing commercial content (an ad) that is intermingled with regular content actively consumed by the user. These ads can take the form of various media types such as images, video, audio, animated media, 3D virtual media, and others. These ad types can be served to webpages, video players, gaming devices, mobile, and other platform types.

With SEO/SEM described previously, the intent of the user is known by way of the search terms to use to generate the search results where publisher content displays. Advertising with other media ads, the intent is known only indirectly based on the content where the ad is placed.

A marker, for example, may infer that a user watching a sports show might be interested in buying sports equipment. Since the viewer's intent is not directly known, advertising is more effective if the ad audience is accurately selected. Selecting a custom audience means defining an audience based on common factors they share. Perhaps they're all interested in the same content (contextual), they're all located in a particular region (geotargeting), or they're all within a certain age group, gender, or other defining demographic. Users can also be served relevant advertisements based on their current state in the sales process.

Contextual advertising can be done without the use of identifiers, but selecting audiences in any other way becomes impossible without some kind of identifier. Even in the case of contextual audience selection, deciding whether to advertise a t-shirt branded with a favorite sports team or exercise equipment for the user who watches sports, is heavily dependent on identifiers.

Loss of Identifier Impact
Serving ads based on any kind of demographics or user behaviors is impossible without identifiers. Contextual audience selection becomes the only option and is only based on site content (which is difficult to develop to a certain audience without identifiers).

Social Media Promotion

Social media platforms typically involve a feed, or “wall,” which is populated by user-generated content (UGC). Brands and publishers can benefit by posting information or media that promotes specific content to attract readers and drive users to their site.

The landscape is continuously evolving with new platforms and new ways to reach consumers entering the marketplace. The largest social media platform, Facebook, is an environment where authenticated users are enclosed within an ecosystem of media controlled by Facebook. This is often called a walled-garden.

Publishers can promote editorials, advertorials, or other highly interesting and engaging content within these walled gardens to grow their subscriber base while also increasing ad revenue using the added page views that create more inventory to sell.

Other social media platforms specialize in different kinds of user-generated content such as video (YouTube), images (Instagram), microblogging (Twitter), hobbies (Pinterest), fan book authoring (Wattpad), short-form video (TikTok), cooking (AllRecipes), and many others.

For example, if a publisher promotes a unique, creative recipe via a short video snippet via their social media channels, and their subscribers or followers then create user-generated video content of themselves replicating the recipe that then results in others doing the same, that is considered “viral content” that creates awareness for the originator of the recipe that was initially published.

Additionally, subscribers can receive targeted paid media via different social media channels based on the social media platform's ability to segment and create audiences based on a number of different attributes that were provided by the consumer (region, demographic, affinity, lifestyle) or gleaned through behavioral and contextual signals.

Loss of Identifier Impact

Social media promotion activities can continue with the loss of identifiers, but optimization toward specific outcomes (purchases, repeat visits, gameplay, signups, etc.) becomes difficult.

Section 2.3

Personalization and Delivery

Publishers are under increasing pressure to deliver personalized experiences for their audiences; it's not only conventional, site visitors expect it. Personalization may come in the form of recommendations, customizations or preferences, or other conveniences, and may also involve strategies to limit access to publisher content or services until certain conditions are met (such as a subscription, the collection of personal data, filling out a survey, reaching a level of gameplay, etc.).

Personalization may also be done using the current context or prior behavior to improve content relevancy for audiences. In all cases, the purpose at this stage is to delight the end-user, develop brand loyalty and trust, and otherwise sustain continued engagement and the resulting revenue.

Distinct business activities may include:

- Basic content delivery
- Content personalization
- Consumer privacy
- Registration walls
- Ad-block detection
- Fraud detection

Basic Content Delivery

All audiences, regardless of segment, category, or profile, are presented with the same content.

No personalization is needed or even practical. The publisher's infrastructure simply provides the same website content, mobile app, service, or audio/video stream to all audiences.

Loss of identifier impact
As long as personalization isn't needed for content delivery, the loss of identifiers doesn't impact basic delivery.

Content Personalization

Content personalization is any process by which a publisher delivers, tailors, and/or recommends content/services based on a user's stated preferences or patterns of behavior.

Personalized content might surface scores from favorite sports teams, news according to local region or interests, a list of videos similar to ones already viewed, or other details related to the unique identifier accessing the publisher's content or service.

Content personalization uses software algorithms that run within website pages or apps. Using an identifier at runtime, the algorithm calculates preferences or patterns of behavior for each individual user. That identifier eventually leads to a data platform (DMP, CDP, CRM, etc.). The app/page requests segments from the data platform, which in turn is passed as part of a request to a CMS. The CMS determines if the requested content is for a specific region, a favorite sports team, etc.

For content recommendations, data about the viewing or reading habits of the consumer is used to identify and propose "watch/read next" links. The recommender system is constantly learning and re-evaluating the strength of links based on user behavior. Some recommenders are built to divert traffic on a CPC basis. Others are built to help users discover more interesting content within the same brand or app.

Loss of identifier impact
Content personalization isn't possible without identifiers.

Consumer Privacy

Consumer Privacy involves offering consumers transparency, choice, and control over the use of personal data, along with mechanisms to make sure consumer choices are adhered to by all parties involved in the delivery of content, services, and advertising.

Privacy is "the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others." Different people adhere to different privacy norms. The role of privacy technology is to understand the privacy norms and preferences to accurately apply a user to the information collection and usage on an application or service. In most situations on the Internet, the information collection and usage that affects a person is often more understandable to other parties than to the user themselves, and for that reason, maybe infeasible for each individual to make an informed decision about every communication of their information. In order to maintain audience trust, publishers set privacy defaults to match user norms and preferences as far as they are understood.

The user experience of privacy is still in the early stages of design. Since the European Union's General Data Protection Regulation (GDPR) went into effect in 2018, many sites use a Consent Management Platform (CMP) to provide a set of messages and affordances that are intended to achieve compliance with this law. Users are prompted to consent to a bundle of possible uses of their personal information and generally given the option to deny consent for some or all uses. After the CMP elements on a page have been interacted with, the site stores a record of this, generally in a first-party cookie. CMPs can also support the less complex interactions required in California, USA, and in other jurisdictions. A cross-site identifier is not required for today's CMP usage.

The drawback to this first-party-based approach is that people are regularly subjected to time-consuming dialogs full of unrecognizable company names and poorly-understood data sharing practices in order to make a simple choice. In the future, browsers and privacy services will be able to "learn" the privacy norms that apply to each user in order to apply the best estimate of the user's true preferences and to facilitate understanding and changing a setting when needed. Bringing privacy experience up to the level of other user experience will require extended research, data collection, and testing of alternatives.

Loss of Identifier Impact
Publishers, and the platforms they trust to honor privacy preferences, have a 100% dependency on identifiers or some mechanism for storing and persisting consumer choices collected. With the removal of device identifiers, privacy controls would have to be repeatedly and redundantly offered to consumers on every site or app they use. It would be impossible to offer consumers fine-grained “global” privacy settings that persist across websites or apps. Global Privacy Control implements the essential “Do Not Sell” mandate in the state of California, carries only a single bit of information to opt the user out of all “sale” of their information, and does not include all possible privacy preferences that might be expressed on a site.

Registration Walls

Publishers may require audiences to set up an account and provide their personally identifiable information (PII), in lieu of fees, to access content and services.

A registration wall requires consumers to create an account and authenticate to access publisher content or services. The model for registration walls varies, but most publishers use them to collect user information and make their first-party dataset more robust and accurate. These datasets can be leveraged for marketing, advertising, and promotional tactics.

For example, cookie and device data can be resolved to match an identity linked to an email provided by a consumer, which improves subscriber data hygiene. These links can then be used to persist messaging, such as in other media and email newsletter content, and provide content based on behavioral cues provided by the registrant. The consumer’s personalization can ultimately leverage the authenticated account and profile created. The publisher can associate a user’s content consumption based on a given identifier with the registrant’s authenticated account for an optimized 1:1 relationship with the user.

The account associated with the registration activity can also enable the user to provide preferences and privacy restrictions, which helps the publisher understand how to respect the user’s tolerance for communication. With these preferences in mind, the publisher can relate the created account to other identifiers, which is aggregated into a holistic view of the customer that can then be leveraged for orchestrating and fulfilling an end-to-end customer journey. For example, a site can prompt a user to add their real address in exchange for valuable content or services.

By asking subscribers to login into their account, it helps to refresh non-persistent identifiers such as cookies that only last the duration of a session or otherwise as defined by specific browsers.

Authentication and Access Management is typically handled using an Identity Management Platform or Provider (IDP) that owns and maintains the user information that was provided upon creation of the account at the time of registration.

Loss of Identifier Impact
Registration walls assume that consumers set up an account and must log in each time in order to access the content/service. Authentication of the user serves as the needed identifier in this case, but linking an authenticated user to other behaviors for a deeper understanding of the user cannot be achieved without identifiers.

Without identifiers, publishers would lose the ability to spawn personalized reg wall experiences based on how a user consumes content (e.g., a certain number of visits) on a given site. If reg walls are run from a third-party domain, or a user has not provided consent, the reg wall may lose access to user state data and would not correctly spawn the correct reg wall offer or message.

If browsers make it so incognito mode cannot be detected, a publisher would also lose the ability to spawn a different reg wall experience for those users, which could allow users to "steal" content for free.

Ad Blocker Detection and Recovery

Blocker detection and recovery involve publishers detecting and measuring whether a consumer has software installed to block the delivery of advertisements. Blocking publisher-supplied content interferes with revenue, so publishers invest in detecting adblocker activity so that they can attempt to recover lost revenue.

Blocking software adoption has grown to impact all digital publishers, resulting in billions of dollars in ad revenue losses. Blockers come in the form of ad blockers, tracking blockers, and content blockers, which can be installed with browsers that include blocking as a feature, as a browser extension, as a desktop application, or as a VPN or network-level blocker.

Many blockers also block analytics tools publishers use to manage their business, obscuring the true impact of blockers on a publisher's business. Publishers need to understand this impact in order to recover revenue lost to blockers. Tools are available to help detect and measure blocker impact, but blockers don't offer APIs that work with these tools. In fact, blockers actively try to avoid being detected while blocking or circumventing publisher ads or access control.

Detecting blockers requires ever-evolving software that implicitly identifies these evasive blockers, which is based on monitoring the network calls or page elements that are blocked. In much the same way that virus, fraud, and malware detection is an ongoing process, detecting the presence of blockers that evolve over time requires ongoing vigilance and updates to detection software.

Blockers typically involve at least two integrated components: 1) software that executes the blocking and 2) software that determines what to block using filter lists or programmatic classification. Some of the largest blockers and filter lists are maintained as open-source projects, with 24/7 crowdsourced updates shared across publishers or vendors with new blocks or attempts to circumvent publishers' access control. Blocking activity may block visitors, pageviews, or ad impressions.

If a blocker is detected, a publisher may attempt to recover lost revenue with an access control system that either engages the visitor to support the site by having the site whitelisted in the blocker or by providing alternative value exchanges for access, such as ad-lite experiences, email subscriptions, social subscriptions, paid subscriptions and more.

Once detected, blocked content can be measured and reported using a dedicated ad-blocking system or a multi-purpose analytics system. Measurements include calculations that report revenue lost as a result of blocking. To implement and report on access control or alternative value exchanges, an identifier is needed to deliver the value exchange agreed upon by the parties involved. The identifier might be associated with a visitor, a pageview, an active blocker, a recovered blocker, or a subscriber.

Just as the publisher needs to deliver agreed-upon value exchanges, the visitor must satisfy the requirements for receiving those value exchanges. An identifier is needed to match the visitor to the agreed-upon value exchange and to report on whether the user has met the requirements for receiving the value exchange.

For example, if a blocking visitor agreed to become an email subscriber in exchange for seven days of ad-free access, an identifier is needed to recognize that user on subsequent page views and end ad-free access after seven days. The same is true when a user purchases a monthly ad-free subscription; the publisher needs an identifier to recognize that user on future pageviews and end ad-free access if the subscription is canceled.

An identifier is also required to report on blocker recovery. For example, if a user agrees to support the publisher by disabling their blocker, the publisher uses an identifier to calculate how many blockers, page views, and impressions were recovered over time and by geo as a result of the disabled blocker. Each time a user disables a blocker, they are identified as a recovered user. Using the identifier, the publisher is able to measure recovered revenue from that user, recovered revenue from that geo, and on-site behavior of that user, providing insight on publisher attempts to improve relationships and experience for visitors that user blockers.

Variations by Geographic Region
Blocker impacts, for both mobile and desktop, are higher in the EU than in the US. Mobile blocker impacts in Asia are higher than in both the EU and US. There is no particular geo-based variation that avoids the need for an identifier. In fact, geo-based reporting is one of the reasons an identifier like IP is needed—to measure blocker impacts by geo, recovery success by geo, and any geo-specific personal data restrictions that might impact blocker detection or recovery.

Notable Variations by Media Channel
Blocker impacts are higher on the desktop web than on the mobile web, but mobile web is growing at a higher rate than desktop. Blocker impacts for in-app and OTT are currently lower than both desktop web and mobile web. Identifiers are needed for detection and recovery across all channels.

Loss of Identifier Impact
Identifiers are not required to detect that a blocker is active. However, to report on the magnitude of blocking and recovery efforts by segments other than geo and browser, an identifier is required.

Fraud Detection

Fraud detection is the process of identifying fraudulent users, visits, app installs, advertising impressions, or any other events meant to generate fraudulent revenue.

Ad fraud is the practice of fraudulently representing online advertising impressions, clicks, conversion or data events in order to generate revenue. The total annual cost of Ad Fraud is estimated to be between $25-$40 billion/year.

One effective fraud countermeasure is limiting ad placements to known honest sites. However, many advertisers also choose to use automated fraud detection services in order to enable ad placement on sites that they have not evaluated, to receive lower rates, more inventory, or both. Automated fraud detection typically uses identifiers to associate behaviors driven by non-human entities, otherwise known as “bots.” Non-human behavior might be observed as too many page views or other interactions that are generated in quantities too high to be human. The abnormally high overlap between site visits and activities is another way to observe bot activity.

Ad vendors usually add unique identifiers in their ad tags, which usually identify who gets paid when the ad is rendered. Security vendors typically audit these unique IDs to verify that they:

- Belong to the site owner.
- Belong to a known vendor.
- Are current (fraudsters often use outdated tags).
- Are legitimate vendors (without malicious intent like siphoning off ad revenue).

Variations by Media Channel

Podcast apps do not currently provide any identifying information, for either the user or the device, to publishers or service providers. Since no identifier currently exists in podcast apps, fraud detection is not impacted by the loss of identifiers. Podcast publishers rely on user-agent header bot lists, IP filtering, request deduplication, and in some cases machine and human-based traffic analysis. Traffic analysis methods use processed audio CDN download logs to identify non-human activity.

Loss of Identifier Impact

A great deal of publisher revenue is generated from the use of identifiers. Fraudsters attempt to simulate human behavior using these same identifiers. The result, if not detected, is ad budgets partially spent on the automated non-human activity. Automatically distinguishing non-human behavior from human behavior becomes difficult, if not impossible, without identifiers. In some cases, particular publishers that can document their known human audiences without the benefit of automated fraud detection may benefit from a “flight to quality” if advertisers lose confidence in the ability of automated fraud detection to make unknown sites fraud-safe.

Section 2.4

Monetization

Much of the digital content freely available to consumers would not exist without monetization to fund all of the activities (and many more) described in this document. Some common monetization activities include advertising sales, subscriptions, data sales, and affiliate sales partnerships. Publishers typically optimize advertising yield across multiple demand partners and channels.

Publishers that develop strong first-party audiences can also generate incremental revenue by doubling as a marketing platform and selling ads programmatically to reach their audiences across third-party properties they don't own.

The more accurately advertisers can measure and control their media spend with one publisher and within the advertisers' own websites, the greater the monetary value they will pay the publisher. Along these same lines, the more advertisers can measure and control their media spend across multiple publishers and the advertisers' own websites, the greater the value they will pay each publisher.

Distinct business activities may include:

- Advertising - Direct Sales
- Advertising - Programmatic Sales
- Affiliate Links
- Audience Data Sales
- Audience Extension
- Donations
- Sponsored Content
- Paid Subscriptions
- Ecommerce Goods and Services
- Virtual Goods and Services

Advertising - Direct Sales

Publisher advertising monetizes content and service development by creating inventory in the form of ad space where buyers can place creative that entices the publisher's audience to complete an action. Direct sales of this advertising involve the negotiation of a contract before the campaign launches.

How It Works

The direct sales process involves negotiation between buyer and seller about details such as the product, pricing, and timing. The agreement must also be reached on the system of record to be used, payment terms, measurement hurdles such as the viewability of the ad, and verification. The resulting contract, or insertion order (IO), captures the agreed-upon terms and conditions (TandCs).

Some key components of the IO include certain product details that involve the use of identifiers. Features such as custom audience selection, retargeting, and frequency capping, all require the use of identifiers. Premium packages with high-value exclusivity like giving the buyer a high priority or including message sequencing, also need identifiers as part of a complex algorithm that determines what ad to serve to a user during execution.

In addition to features and premium packaging, some buyers prefer to use their first-party data as part of the agreement made in the sale. This data lives in the buyer's system and is only actionable on the publisher side using ID syncs or portable, persistent IDs like mobile advertising IDs (MAIDs). Some publishers also perform lift studies for their clients, but first-party data isn't enough for the kind of scale buyers expect.

Without identifiers and the ability to sync those of the buyer with those of the seller, publishers would lack the ability to understand audience overlap, evaluate how content resonates with the buyer's selected audience, or co-create audiences from combinations of their combined first and third party data.

Finally, direct sales often include services such as verification or attribution. Verification uses identifiers to reduce fraud, and attribution uses identifiers to track down the multiple touchpoints that drove traffic or user action for a brand. A buy without verification or attribution data will put some buyers "in the dark" when it comes to their media spend.

Loss of Identifier Impact
Without identifiers, publishers can't offer products like custom audience selection, frequency capping, or other options for optimizing campaign effectiveness. A lack of attribution would mean that only one source is paid for driving traffic or conversions despite multiple touchpoints that drive users to a brand's site or to complete an action. Also, publishers can't offer verification for fending off bad actors.

Advertising - Programmatic Sales

Software-powered selling and buying of advertising inventory. These transactions happen mostly via the real-time bidding (RTB) protocol, via intermediaries (save vertically integrated publishers like Google, Amazon), and at an 'individual user impression level; but increasingly, this sales channel is transacting directly with buyers and at the 'inventory package' level with deal terms.

"The vast majority (83.5%) of US digital display ad dollars are transacted using programmatic technology today." - eAdvertiser, Nov 2019. Similarly in the UK, in 2019 this accounted for 87% of total revenue.
The lines between the colloquial terms 'programmatic' and 'direct' sales are becoming increasingly blurred. The best way to highlight differences is to unpack a few common dimensions:

- Programmatic: "media or ad buying that uses technology to automate and optimize, in real-time, the ad buying process. This ultimately serves relevant experiences to consumers across channels. On the back end, algorithms filter ad impressions derived from consumer behavioral data, which allows advertisers to define budget, goal, and attribution and optimize for reduced risk while increasing ROI." - IAB Glossary
- Direct v. indirect sales channels: the key distinction here is if the buyer and seller interaction, where a direct sale necessitates a seller interacting with a buyer to negotiate deal terms. An indirect sale can occur without a negotiation between buyer and seller. Programmatic sales can occur within the direct and indirect channel by optimizing workflow, enhancing transactions with meta-data, and executing deal terms at the impression or package level.
- Premium v. remnant inventory: the key distinctions here are time and price. Premium inventory is sold at a higher price. Remnant inventory implies that time has elapsed, and a piece of inventory was unsold at a premium price. Programmatic supports transactions of both premium and remnant inventory by finding non-guaranteed demand to beat premium price floors in run-time, soliciting

guaranteed demand to match premium price floors in the future, or selling at prices below premium price floors once the inventory is deemed remnant.

How It Works

Programmatic transaction types from the publisher's perspective:

- Open Market:
    - RTB-enabled auctioning of an individual impression to many potential buyers, enhanced with 100s of pieces of meta-data (including contextual signals, device or user identifiers, transactional signals, and campaign + creative signals). These transactions are primarily conducted by SSPs and DSPs but often enhanced by data and compliance partners.
    - Preferred access is the same as above, except one or more buyer(s) may have advantaged access to win a given impression at a lower price.
- Futures Market:
    - Programmatic guaranteed: One to one RTB-enabled transactions, negotiated by the buyer and seller, with guaranteed spend and fulfillment, powered by workflow and transactional optimization from technology partners. These transactions are primarily conducted by SSPs and DSPs, but often enhanced by data and compliance partners. In the UK, the use of custom audience selection is becoming an increasingly important element of programmatic guaranteed
    - Intermediary arbitrage (network model): non-RTB enabled transactions where an intermediary re-sells inventory, taking on financial risk with a purchase from a publisher or another intermediary, prior to a subsequent sale to a buyer or another intermediary.

Loss of Identifier Impact

Audience buying and selling have been the major thrust in the rise of RTB and consequently the expansion of the programmatic ecosystem. To put this statement into perspective, an impression that is eligible for custom audience selection in the programmatic sales channel monetizes at a 15-20x higher rate, than an impression not eligible for custom audience selection (source: PubMatic Research). For more context, the ability to anonymously identify an individual user is the building block, as buyers and technology partners use these unique identifiers to create audience segments, frequency cap, measure, and plan campaigns accordingly. Principal participants in a media transaction have used 3rd party cookies to communicate these unique identifiers with technology partners to realize the audience benefits of the programmatic channel, so the 3rd party cookie should be considered a lynchpin for non-vertically integrated publishers

(i.e the open web) to realize the value of the programmatic sales channel. Yet by current standards in the UK, typically 40-50% of publisher's traffic is on Safari or other environments already blocking 3rd party cookies.

Variations by Geographic Region
Programmatic penetration is slightly protracted outside of the US. eAdvertiser estimates that programmatic represents ~85% share of display ad spend in the US and 69% WW.

Variations by Media Channel

- Programmatic penetration is protracted on emerging formats. Display > mobile app > web video > CTV
- Mobile App uses DeviceIDs or Mobile App Identifiers (MAIDs) instead of 3rd Party cookies as the primary unique identifier. These IDs have not yet been restricted by Apple and Google, like 3rd party cookies
- CTV is lacking a standard, so most unique identifiers are synthetic and specific to individual SSPs. Lacking standards means CTV IDs are less effective than 3rd Party cookies on the web, thus less distance to fall pending future restrictions.

Affiliate Links

Affiliate links allow publishers to supplement their revenue by becoming affiliates of and referring audiences to, eCommerce or other sites. If audiences make purchases as a result of that referral, the publisher responsible for driving the purchase receives some of the resulting revenue.

The affiliate model is simple. The advertiser agrees to pay the publisher a fixed fee or percentage of revenue when a user completes a "value-based event" originating from the publisher's site. A value-based event might generate a lead or complete a paid download or purchase. Affiliate marketing is generally about finding new prospects for business rather than re-engaging existing customers.

For sites accessed with registration or from a paid download, the affiliate provides an identifier that allows both parties to associate a shared first-party identifier with the new customer. The identifier is usually an

email address for an online interaction and a deviceID for a paid download. Affiliates that involve an order for a product or service may or may not provide first-party identifiers.

Sites like Amazon, Walmart.com, or eBay easily function as affiliate channels because they resell goods on their sites for a percentage of the revenue rather than sell their own products. Ecommerce publishers with their own products tend to sell more of their products through the bigger affiliate channels because of the higher volume of traffic on those channels. These large affiliates can afford higher CPC and CPM rates on ad networks such as Google's paid search or product search, which outrank the publishers' own product ads while still benefiting the publisher by driving more traffic to their product listings on the affiliate sites.

Whether information gets passed to the publisher or not depends on who is doing the fulfillment. If Amazon fulfills the customer, then no identifier is passed to the publisher. If the publisher fulfills the customer, then critical first-party identifiers do get passed with details like name, mailing address, email address, and potentially phone number.

Another type of affiliate marketing focuses on identity sales. Publishers entice users to provide personal information, usually just an email address. When users sign up to receive something from the publisher, they agree to terms that allow the publisher to sell their information to a third party (affiliates). Affiliates may then use these identifiers as the match keys to tie together pools of data in other systems.

Loss of Identifier Impact
Affiliate revenue depends on the ability to attribute an event (purchase, app download, registration, etc.) for a user on a site or app to the referring publisher. Any loss of an identifier along the way breaks the attribution and subsequently any affiliate revenue associated with it.

Audience Data Sales

Publishers generate supplemental revenue by selling either packaged audience segments created by the publisher in data marketplaces or providing access to the raw audience data that can be packaged and segmented to suit clients' needs.

Publishers generate valuable first-party data when users visit their sites or use their apps. They can leverage this data for additional revenue by selling access to the data or selling it as packaged audience segments. Data sets may be exclusively first-party data or may layer it with third-party data for more depth. Segments may be packaged as part of targeted inventory for direct sales, synched with supply-side partners in private deals, included in standard bid requests, or made available in audience marketplaces and DMPs.

Publishers gather first-party data that is either declared or inferred. Declared data is gathered from user registrations and other user actions. Inferred data is gathered as a result of behavioral data collected on both registered and non-registered users.

The value of this data is dependent on identifiers so that it can be matched to the data sets of those who purchase it.

Loss of identifier impact
Without the use of identifiers, the value of audience data sales is lost. Buyers' interest in the data is to match identifiers of the purchased data to that of their own data pools to strengthen the certainty of user profiles, which helps optimize advertising campaigns.

Audience Extension

Publishers can extend their audience for buyers by not only placing ads on their own sites but also advertising to their users while they are visiting other, non-owned sites. Audience extension is often offered in a direct sales package to provide additional scale for the buyer.

Publishers use data management platforms (DMPs) to segment audiences based on an advertiser's goals. For example, a publisher that represents an outdoor adventure site might segment users who show an interest in camping. The segment is then packaged and sold to brands that want to sell camping gear.

Using identifiers, the segment created in the publisher's DMP (either owner-operated or outsourced) is matched to identifiers in the buyer's DSP to find the publisher's users on other properties. The segment

packaged for the buyer can then be used to reach the publisher's audience wherever they show up--not just on the originating publisher-owned properties.

Loss of Identifier Impact
Buyers can't find the publisher's users on other properties without an identifier from the publisher to match with their own data. Audience extension is lost as a product (along with resulting revenue) without identifiers.

Donations

Donations are supplied by a publisher's audience to fund the development of content or services. These donations are optional and offered by users who value the work of the publisher.

Some publishers, because of the philanthropic nature of their work or because of a personal project, will ask for donations to fund development. Donations may be the publisher's sole method for monetization, or it may supplement other means of monetization.

Publishers may request donations in a number of ways: in a video posted on a site like YouTube or Instagram, using a prominent header or footer on their pages or apps, in an email blast, on social media, or at live events. Some publishers even invest in some kind of advertising to increase donations.

Regardless of how a publisher requests donations, all requests funnel donors to an e-commerce service or integration for collecting payment. Some publishers might simply collect funds and do nothing more. However, more often than not, publishers collect data on donors.

Using identifiers, they associate users with behaviors that indicate a higher likelihood to donate, such as whether they've donated before. They collect email addresses from donors and non-donors and maintain communication and build their audiences. Publishers with multiple properties that serve different functions, may use identifiers to track user interactions, purchases, and donations across all properties and then use that data to further optimize their strategies to drive traffic and increase donations. They may need to maintain a data set of identifiers to supplement donations with other monetization strategies such with affiliate links, products, or advertising.

Loss of Identifier Impact
Publishers may use identifiers to track users who have donated in the past or who exhibit behaviors that suggest they would be likely to donate. This data may rest solely on first-party data collected at the time of donation or they may also work with third-party data. Without identifiers, publishers can still collect donations, but details about their donors are lost to a lack of data. More savvy publishers use identifiers in their data to optimize their efforts or supplement donations with other monetization strategies.

Sponsored Content

Monetizing with sponsored content involves a buyer that funds the development of specific content such as a white paper, a webinar, or an infographic. The content is used to engage, inform, and entertain a publisher's audience while creating awareness of the sponsor's brand and/or driving traffic to the sponsor's product.

Publishers are constantly developing content for both drawing an audience and keeping them engaged. One monetization strategy for this development is to get a buyer to either brand the content, participate at some level, supply content, or otherwise fund the development.

In many cases, the publisher requires users to provide some kind of identifying information, usually an email address, to access the content and then share the data with the sponsor. Consider registering for an event, or providing your email before downloading a whitepaper.

In other cases, sponsored content doesn't require explicit identifiers for access. An article, video, or other content is placed within the publisher's content channel (native advertising), and identifiers are used to track user views and their tendency to complete a sponsor-defined action such as a click, a purchase, or conversion.

Some examples of sponsored content include sponsor-supplied content (native articles, etc.), sponsor-funded social videos, sponsor product placement, sponsor-branded live events, a sponsor-funded story series, sponsor-led presentation, sponsor-branded infographics, whitepapers, etc., or any content that mutually benefits the publisher and the buyer (sponsor).

Identifiers are used to measure the success of the sponsored content, increase and strengthen the publisher's audience data, and drive leads for the sponsor.

Loss of Identifier Impact
Sponsored content can be executed without identifiers, but measuring success for both the publisher and the sponsor is vital to justifying the investment and optimizing this monetization strategy.

Variations by Geographic Region
The most notable variation by geography would be pricing adjustments based on market size and audience size. All sponsorship models can effectively work across all cultures around the globe.

Variations by Media Channel
Disclosure of paid partnership varies in different media channels: broadcast segments must meet FCC guidelines, digital sponsorships must meet FTC guidelines, and social channels have their own paid partnership guidance to follow.

The format of the content also varies by media channel. A video publisher sells sponsorship for video development, a news feed sells sponsorships for native article placement, a gaming publisher might sell sponsorship as product placement in a first-person virtual world.

Paid Subscription

Publishers may require users to set up an account and pay subscription fees for access to content or services.

How It Works
Similar to a registration wall (described under Content Delivery and Personalization), a paid subscription requires consumers to create an account, pay the fee, and authenticate to access publisher content or services. Publishers charge a subscription fee for premium content like higher quality news, popular shows and movies, or online gaming.

As with many features provided by publishers, third-party services, such as e-commerce, are often used in the delivery of paid subscriptions. While subscribers generally expect that their data is not being sold, publishers still need identifiers to work with third-party systems as well as personalize content for the subscriber. Personalization is increasingly expected in a paid subscription. Publishers also need identifiers for advertising to increase or maintain revenue from paid subscriptions. In this way, the publisher is as much an advertising brand as it is a publisher.

Publishers that monetize with paid subscriptions still perform many of the same activities that involve identifiers and user data. Improving data hygiene, data syncing with third-party systems for a variety of services, measuring for success and improved personalization, and many of the other distinct activities already described in this document are just as important for these publishers as it is for publishers who monetize in other ways.

The data collected from subscribers are used in many ways to fund and maintain the publisher's business. However, the biggest benefit to all parties involved in a paid subscription model (as with an unpaid registration wall) is the ability to capture user privacy preferences. These privacy settings help the publisher and their partners to understand and respect the user's tolerance for communication and personalization. Privacy data can also help these parties understand these audiences as a whole so they can provide the best experience while optimizing their services.

Loss of Identifier Impact
Paid subscription models necessitate the collection of user data for the purpose of authentication and access. This first-party data and subscription fees can sustain the publisher's business. However, depending on how many third-party integrations and the nature of those services used to support the delivery and maintenance of the content provided, the loss of identifiers could interfere with how the publisher provides paid services.

Ecommerce Goods and Services

Some publishers' business models are the online presentation, sale, and merchandising of products and services. Products and services may be their own or those they resell for other merchants.

There is no industry vertical where e-commerce doesn't come into play. An online presence is not only efficient for selling goods and services, but consumers also expect some kind of online presence for anything they wish to purchase. Some manufacturers and merchants invest in a publisher business model as a secondary virtual storefront to support a physical retail presence. Others are online first, and increasingly many are moving online only.

As an online retailer, publishers list products and services for sale, often accompanied with shopping cart functionality, recommended additional products, and other features to support the shopping and purchasing function for the site.

In this model, identifiers are used to keep track of what products a user browses, what they intend to purchase, and collecting necessary personal data for completing the purchase. In general, identifiers are used to track the user's experience through shopping and purchasing on the site. In some cases, the identifier is used to link back to any ads the user viewed or click before arriving at the site.

Loss of Identifier Impact
Identifiers and audience recognition are necessary to maintain a cohesive shopping experience in an e-commerce publishing model. From browsing desired items to placing them into a shopping cart to completing the purchase, managing the whole shopping and checkout process

Virtual Goods and Services

Some publishers make money selling virtual goods and services, such as gameplay items like virtual equipment and advancements.

Loss of Identifier Impact
Identifiers are necessary to associate purchased items to a specific consumer. The removal of identifiers makes it impossible for a user's prior-purchased items to be "remembered" for future use.

Section 2.5

Re-Engagement / Retention

In addition to new audience acquisition, publishers often focus strategies around re-engaging those who already engage with their content or services, whether consumers use the publisher's app, visit their website, or otherwise utilize their service. Tactics can include email, online ads, and notifications targeted to specific audiences, perhaps with coupons, promotions or other incentives and premiums. The more personalized the matching of content to consumers, the more relevant the consumer experience.

Distinct business activities may include:

- Email promotion
- Advertising
- Notifications
- Pricing Discounts
- Special Events (live venue or virtual)

Email Promotion

Publishers sending emails to their audience base, as a means of re-engaging them.

How It Works
Custom ad-server/SSP for ads-in-email mimics web-SSP without the utilization of 3rd party/1st party-cookies and JS.

Loss of Identifier Impact
Email promotion requires only a valid email address, no device/user identifier is necessary.

Advertising

Publishers use a variety of digital advertising tactics to reach their audiences on other publishers, as a means to re-engage them.

Loss of Identifier Impact
Publishers won't be able to reach their audiences on other publishers' properties if identifiers are removed.

Notifications

Mobile app publishers may use notifications to alert users with messages on their device, as a means of re-engaging them.

Loss of Identifier Impact
Notification capabilities are inherently built into the app and the device, so should not involve any identifier dependencies. However, many of these notification rules may involve data and logic processed via centralized servers along with device identifiers, then returned back to the device for decisioning.

To the extent notifications are personalized and involve core content/service delivery infrastructure, there will be a business impact -- which we address within the Content Personalization section above.

Pricing Discounts

Publishers periodically re-evaluate subscription pricing for access to content generally, but also within viewing, genre, channel tiers, and content specials.

How It Works
Discounts will be developed to stabilize subscriber cancellations (churn). Discounts can be either advertised or re-actively offered on request for service cancellation by consumers.

Loss of Identifier Impact
Low: Possible minor impact on efforts to market discounts if identifiers are not available to focus on subscribers most likely to take advantage of discounts

Special Events (live venue or virtual)

Publishers may host live or virtual events to drive buzz, create content organic on social media, and deepen content brand appeal with the fan base.

How It Works
Email blasts to subscribers (or opted in via other means) can be utilized to inform, invite, and register attendees for events promoting content brands, characters, and ethos. Content talent can be engaged to drawn attendees and drive engagement.

Loss of Identifier Impact
Low

Event attendees can be informed via email addresses volunteered by fans, or retrieved from subscriber data

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Cross-Functional Industry Contributors

Captains

- Edward Drake, Bank of America
- Abhijit Shome, Mastercard
- Kanishka Das, The Procter and Gamble Company
- Chris Paul, Verizon

Co-Captains

- Chris Novak, Dentsu Aegis Network
- Sargi Mann, Havas Media
- Sriram Padmanabhan, MediaCom
- Kate Sirkin, Publicis Worldwide

Participants

- Sam Deutsch, AB InBev/Anheuser-Busch
- Paolo Provinciali, AB InBev/Anheuser-Busch
- Philip Smolin, Amobee
- Pete Johnson, AT&T Inc.
- Richard Beale, AT&T Inc.
- Rachel Parkin, CafeMedia
- Derek Nicol, CBSinteractive
- Charles-Henri Henault, Criteo
- Diego Vaccarezza, CVS Health
- Tim Meyers, Dish Media
- Jose Moreira, Dish Media
- Evan Hills, Dstillery
- Katie Karp, Facebook
- Maggie Burke, Facebook
- Casey Beal, Facebook
- Marla Skiko, Ford Motor Company
- David Perez, General Motors Company
- Joe Mazeika, General Motors Company

- Chris LaSala, Google
- Dan Taylor, Google
- Peter Sedlarcik, Havas Media
- Michael Smith, Hearst
- Angelina Eng, IAB Tech Lab
- Robyn McRae, IBM
- Igor Levin, Johnson & Johnson
- Ron Amram, Mars Inc.
- Trevor Mueller, McDonald's
- Ron Pinelli, Media Rating Council
- George Ivie, Media Rating Council, Inc.
- Maggie Stockdale, MediaMath
- Alysia Borsa, Meredith Corporation
- Brad Feinberg, Molson Coors Beverage Company
- Devon DeBlasio, Neustar
- Chris Guenther, News Corp
- Mike Scafidi, Pepsico
- Ivo Roos, Philips
- Catherina Kowsoleea, Philips Electronics North America
- Helen Lin, Publicis Media
- Jessica Simpson, Publicis Media
- John Sheldon, Smile Direct Club
- Peter Naylor, Snap Inc.
- Chloe Wixsom, Snap Inc.
- Anthony Martinez, The Coca-Cola Company
- Lisa Beckham, The Coca-Cola Company
- Kanishk Prasad, TheTradeDesk
- Emily Gaitan, Toyota Motor North America, Inc.
- Matt Hrushka, TransUnion
- Jennifer Gardner, Unilever United States, Inc.
- Dan Murphy, Univision
- Amy Leifer, WarnerMedia
- Dane Hulquist, Wells Fargo and Co.
- Catherine Armitage, WFA
- Paul Digiacomo, Xandr
- Ridhi Malhotra, Zenith Media
- Joshua Koran, Zeta Global

Glossary

1st Party Data
1st Party Data is information collected from a business (and its activities), for that business, by that business. This commonly refers to details about audiences or customers but also covers the performance of marketing strategies and advertising campaigns. Some common sources include CRM, website, mobile app, customer feedback, e-commerce platform, etc. 1st Party Data is owned by a brand that has complete control over how it is collected, processed, and used. Information is unique to that business and generally the most accurate type of data. [6]

2nd Party Data
2nd Party Data is simply somebody else's 1st Party Data. It is procured through a direct transaction and is normally the result of a reciprocal partnership, though not always. In theory, it enables a data exchange benefiting both parties and involves a pre-determined and defined agreement. An example could include a hotel chain and airline sharing information to target audiences with relevant offers. [6]

3rd Party Data
3rd Party Data is information compiled from a variety of sources by an unrelated company, which is then anonymized and packaged into off-the-shelf segments. A 3rd Party Data provider might have relationships with multiple publishers and companies to build a scalable audience of 'in-market automotive shoppers. This can then be purchased and plugged into either data management platforms or demand-side platforms for use in targeting ads and marketing messages. [6]

Ad Network
Ad network provides an outsourced sales capability for publishers and a means to aggregate inventory and audiences from numerous sources in a single buying opportunity for media buyers. Ad networks may provide specific technologies to enhance value to both publishers and advertisers, including unique targeting capabilities, creative generation, and optimization. Ad networks' business models and practices may include features that are similar to those offered by ad exchanges. [9]

Ad-based Video-On-Demand (AVOD)
A streaming video service that offers consumers access to a catalog of on-demand content and contains advertisements. [17]

Addressability
The ability to target a message to a device, browser, segment, and/or individual. Those segments could be matched or modeled by behavioral, demographic, and geographic factors from 1st, 2nd, or 3rd party data sets. [20]

Addressable TV
Technology that lets you show different ads to different audience segments watching the same TV program on IPTV and set-top boxes. Those segments could be defined by behavioral, demographic, and geographic factors from 1st, 2nd, or 3rd party data sets. [17]

Advanced TV
Any television content that has evolved beyond traditional, linear television delivery models. This umbrella term is inclusive of the following:

- Interactive TV (iTV): The catch-all term for adding a viewer engagement piece to television. This can include both interactive content and advertising and can be delivered in a variety of ways, including through the first- and second screen.
- Connected TV (CTV): A television set that is connected to the Internet via OTT devices, Blu-ray players, streaming box or stick, and gaming consoles, or has built-in internet capabilities (i.e., a Smart TV) and is able to access a variety of long-form and short-form web-based content.
- Smart TV: A subset of Connected TV.
- Linear Addressable: The addressable ad inserted into live programming. For example, DirecTV, Dish, and Cablevision's inventory are all linear addressable.
- VOD Addressable: The addressable ad is inserted into cable programs within the VOD content accessible through a cable provider set-top box. For example, Comcast's addressable inventory is VOD addressable. [17]

Analytics (Web and Mobile)
Analytics in the context of MarTech refers to the data captured from a brand's owned and operated properties. Analytics tools enable brands to understand how their digital destinations are performing and

the way audiences are engaging with them. Web analytics provides information such as the total number of visitors to a web page, performance of specific pages, and e-commerce data. The field of mobile analytics includes mobile web and app data, such as interaction with features, navigation, and monetization statistics. Both areas include a vast suite of tools and metrics that provide a detailed picture of the overall audience and customer engagement. [6]

Application Program Interface (API)

An Application Program Interface (API) can be viewed as the pipes that connect web programs and software systems for the purpose of sharing data. APIs enable digital products and services to send and receive information in a way that makes sense to both platforms. While there are a number of ways to use an API, a common example would be when an advertiser wants to have both web and mobile analytics pushed into a data visualization platform for graphical representation. This can be plugged in using an API. [6]

Artificial Intelligence (AI)

Artificial intelligence (AI) interprets vast reams of data to enable decisions to be made at a scale and pace not possible by humans. It helps fill the gap between the huge amount of information advertisers have and the ability to comprehend it. AI is different from traditional computing in that it can not only interpret data but act on it — by deploying algorithms that learn over time. This can be applied to the world of search engine marketing, digital advertising, e-commerce, marketing forecasting, and other initiatives that need analysis of large volumes of data. [6]

Attribution Modeling

The basic aim of attribution modeling is to figure out which marketing actions or channels contributed most to a certain customer action. It's about using analytics to give credit where credit is due, and knowing how much credit is due. This gives you the data you need to optimize everything from budget allocations to messaging to campaign strategies. [4]

Attribution Tools

Attribution Tools refer to technology that helps advertisers assign value to each of the touchpoints a brand has with a customer in the lead up to an online purchase or conversion. Attribution models vary in complexity from those that simply look at the last click (what was the last thing a consumer engaged with) to more sophisticated multi-touch systems. A good attribution tool will consider exposure to advertising (on

the AdTech side), as well as engagement with email marketing and website offers (on the MarTech side), then assign the right amount of influence that each has had on the consumer's purchase decision. 6

Audience Matched Advertising (AMA)
Audience-Matched Advertising (AMA) is the practice of using data-linked, or previously linked, to Personally-Identified Information (PII) for the purpose of tailoring advertising on one or more unaffiliated web domains or applications, or on devices, based on preferences or interests known or inferred from such data. 18

Augmented Reality (AR)
An experience that utilizes a camera to change or enhance something in the user's real world. This augmented reality experience can be app-based or web-based, though app-based is more common today. Note: Although the term uses the word "reality", the experience does not need to look realistic. Ads within AR can be presented in two ways: through the use of markers (such as a QR code) or by placing a brand object in the immediate real-world environment using the device camera. 17

Automated Content Recognition (ACR)
ACR is an opt-in identification technology embedded in a device that allows content to be recognized by video, audio or watermark cues and matched back to a database for verification. This technology can recognize content regardless of its distribution source (i.e. OTT, linear, etc.). Advertisers use this information to understand when a consumer has seen their ads. 17

Browser
A web browser is the software program you use to retrieve and view webpages and other content on the Internet. The most popular browsers today are Google's Chrome, Mozilla's Firefox, Microsoft's Internet Explorer, and Apple's Safari. These programs are free to download, and users may have more than one browser on their computer or another device. In general, third-party advertising companies associate interest categories or audience segments with a particular browser -- not with a person -- to serve ads. 18

Channel
A mechanism of distribution that refers to live or on-demand online content stream(s) featuring user or publisher content curated together. 17

Click-Through Rate (CTR)
The percentage of ad impressions that were clicked on as compared to the entire number of

clicks [CTR% = (clicks ÷ imps) x 100], the ratio of users who click on a specific link to the number of total users who view a page, email, or advertisement. CTR is commonly used to measure the success of an online advertising campaign for a particular website as well as the effectiveness of email campaigns. [9]

Cloud
A term used by web-based companies offering users the ability to access files or services from devices that are connected to the internet (the opposite of storing files or programs on a hard or external drive). [9]

Cloud Computing
A distributed computing system hosted and running on remote servers and accessible from anywhere on the internet. [14]

Cloud Integration
At its most basic level, cloud integration means bringing multiple cloud environments together, either in a hybrid deployment or as multiple public clouds, so that they can operate as a single, cohesive IT infrastructure for an enterprise. [12]

Cloud-based Technology
Cloud-based technology are products and services hosted on the internet. Most AdTech and MarTech platforms are cloud-based solutions that users log into and execute via web dashboards. This concept has been extended further to represent an aggregate of technology services that enable businesses to outsource digital processes to a single vendor (such as Adobe's Marketing Cloud or Advertising Cloud). [6]

Compiled Data
Data aggregated from publicly available offline sources and partnerships; usually nontransactional offline data. [11]

Connected TV (CTV)
A television set that is connected to the Internet via OTT devices, Blu-ray players, and gaming consoles or has built-in Internet capabilities (i.e., a Smart Television) and is able to access a variety of long-form and short-form web-based content. [17]

Content Distribution Network (CDN)
A service that hosts online assets and provides content management via servers located around the globe to reduce the latency of downloads to users. [17]

Content Management System (CMS)
A content management system is a platform used to create, store and manage digital assets. The platforms provide multiple users with access to brand-approved content such as business information and images used in the course of everyday marketing operations. Different permission levels can be set up enabling users to edit, distribute, publish or simply discover content. It includes systems that facilitate collaborative authoring of a website or app, as well as document and digital asset management for version control. [6]

Content Optimization System (COS)
A COS is basically a CMS (Content Management System) but optimized to deliver customers the most personalized web experience possible. [2]

Cookies
These are the little pieces of data that a website sends through a user's browser to recognize a device for a future visit. They're mostly used to relay information about a user's portrait and previous activity on the site — such as how many items were in their shopping cart. They can also be used to connect the marketing platforms in your technology stack based on matched data sets. [4]

CRM Data (Customer Relationship Management)
CRM data is information collected on the customer or potential customer and managed by the advertiser in their customer relationship management system (CRM). It is considered to be 1st party data. It can include offline data, which is customer data from offline activations such as coupon mailers, sales flyers, or loyalty cards; online data, which is customer data from online activities such as website visits, website registration, or online transactions; or personally identifiable information such as email, name, address, phone number, and purchase information. [11]

Cross-App Advertising (CAA)

Cross-App Advertising (CAA) is the collection of data through applications owned or operated by different entities on a particular device, or the use of such data, for the purpose of tailoring advertising based on preferences or interests known or inferred from the data collected. [18]

Cross-Channel

Technology or media that applies across multiple formats and across multiple devices. This is different from “cross-device”, which implies only multi-device applications rather than multiple formats within devices. [15]

Cross-Device Linking

Cross-Device Linking is the practice of linking two or more devices or browsers known or reasonably believed to belong to the same user or household, for Tailored Advertising or Ad Delivery and Reporting. [18]

Cross-Screen Measurement

Tracking and measurement of video metrics across Mobile/Tablet/Out-of-Home/Television/Advanced TV/Desktop. [17]

Customer Data Platform (CDP)

A Customer Data Platform is packaged software that creates a persistent, unified customer database that is accessible to other systems. This definition has three critical elements:

- “packaged software”: the CDP is a prebuilt system that is configured to meet the needs of each client. Some technical resources will be required to set up and maintain the CDP, but it does not require the level of technical skill of a typical data warehouse project. This reduces the time, cost, and risk and gives business users more control over the system, even though they may still need some technical assistance.
- “creates a persistent, unified customer database”: the CDP creates a comprehensive view of each customer by capturing data from multiple systems, linking information related to the same customer, and storing the information to track behavior over time. The CDP contains personal identifiers used to target marketing messages and track individual-level marketing results.
- • “accessible to other systems”: data stored in the CDP can be used by other systems for analysis and to manage customer interactions. [7]

Customer Journey Map

A customer journey map is how you visualize your customers’ experience with your brand. A

customer journey map documents your customers' touchpoints online and offline and documents how you measure each touchpoints effectiveness. This enables advertisers to better understand how customers are interacting with you so that you can optimize the customer journey, remove gaps and roadblocks, in order to increase customer satisfaction, engagement, conversions, and upsell Opportunities. [16]

Customer Relationship Management (CRM)
A Customer Relationship Management platform is the central repository of the information a company has on its customer contact base. The use of a CRM platform is generally more common in B2B than business-to-consumer (B2C) marketing. The CRM enables businesses to track, manage and analyze interactions throughout the customer lifecycle. A variety of information sources can feed into a CRM platform, including data sourced from engagement on a company's website, a live chat, and sign-up data. [6]

Dashboard
Dashboards are a reporting mechanism that aggregate and display metrics and key performance indicators (KPIs), enabling them to be examined at a glance by all manner of users before further exploration via additional business analytics (BA) tools. Dashboards help improve decision making by revealing and communicating in-context insight into business performance, displaying KPIs or business metrics using intuitive visualization, including charts, dials, gauges, and "traffic lights" that indicate the progress of KPIs toward defined Targets. [8]

Data Aggregation
The process of collecting data from multiple sources for the purpose of reporting or analysis. [14]

Data Analytics
The process of examining large data sets to uncover hidden patterns, unknown correlations, trends, customer preferences, and other useful business insights. The end result might be a report, an indication of status, or an action taken automatically based on the information received. [14]

Data Center
A physical facility that houses a large number of servers and data storage devices. Data centers might belong to a single organization or sell their services to many organizations. [14]

Data Cleansing

The process of reviewing and revising data to delete duplicate entries, correct misspelling and other errors, add missing data and provide consistency. 14

Data-Driven Linear TV
The ability to use different data sets including demographics, interests, and viewing behavior to optimize a linear TV schedule that uses specific networks and dayparts to better reach an advertiser's audience. 17

Data Enhancement or Enrichment
Data, typically 3rd party, that is used to add more information to first-party data. Examples include data such as Industry, Company Size, or Annual Sales Volume for B2B markers. For B2C advertisers some examples might be Home Ownership, Presence of Children, etc. 11

Data Lake
A large repository of enterprise-wide data in raw format. Supposedly data lakes make it easy to access enterprise-wide data. However, you really need to know what you are looking for and how to process it and make intelligent use of it. 14

Data Management Platform (DMP)
A Data Management Platform is a central system that houses and manages both audience and campaign data. For advertisers, it can provide a single source of truth that informs both AdTech and MarTech platforms and a unified view of their audience. A good DMP will enable the creation of custom audience segments and facilitate look-alike modeling, where users with similar attributes are grouped together to increase the scale of a segment. These can be used to target relevant advertising creative to specific audiences and/or customize an offer on the website. It is one of the few components in the stack that bridges both marketing and advertising functions. 6

Data Mart
The access layer of a data warehouse used to provide data to users. 14

Data Matching
Data matching is the process of connecting the anonymized identities assigned to people and devices in one platform and the anonymized identities assigned to people and devices in every

other platform. This is what powers people-based marketing. To protect users privacy, comply with regulations, and adhere to industry best practices, offline data needs to be anonymized before it can be matched to online devices or digital IDs. [4]

Data Onboarding
Data onboarding is the process of transferring offline data to an online environment for marketing needs. Data onboarding is mainly used to connect offline customer records with online users by matching identifying information gathered from offline data sets to retrieve the same customers in an online audience. [11]

Data Science
A discipline that incorporates statistics, data visualization, computer programming, data mining, machine learning, and database engineering to solve complex problems. [14]

Database Management System (DBMS)
Software that collects and provides access to data in a structured format. [14]

Demand-Side Platform (DSP)
A demand-side platform is software that enables buyers — brands, agencies, and ad networks – to purchase advertising spots from ad exchanges and publishers. The role of a DSP is to assess all available inventory, layer in a buyer's requirements around audience targeting, price, and campaign objective, and buy spots that meet these parameters at the most cost-efficient rate. A DSP can then measure and optimize a campaign in real-time. It's important to understand if a DSP partner owns media or also functions as a supply-side platform, as this can mean it is partial to delivering campaigns across certain websites that it benefits from — rather than focusing on achieving the objectives of the advertiser. [6]

Deterministic Data
Deterministic data is obtained from a direct input, it is not modeled data. For example, a user's name and address, email, or phone number that is collected through an online registration form or offline from mailing lists. [11]

De-Identified Information
Data that is not linked or intended to be linked to an individual, browser, or device. [18]

Device-Identified Information (DII)
Device-Identified Information (DII) is any data that is linked to a particular browser or device if that data is not used, or intended to be used, to directly identify a particular individual. DII may include but is not limited to, unique identifiers associated with browsers or devices, such as cookie identifiers or advertising identifiers, and IP addresses, where such data is not linked to PII. DII includes data that is linked to a series of browsers or devices associated through Cross-Device Linking if that data is not used to directly identify a particular individual. DII does not include De-Identified Information. [18]

Digital Asset Management (DAM)
Digital Asset Management platforms are used by enterprises to organize, store and share content for business use. This commonly includes images, photos, creative files, audio, video, documents, presentations, and more. It is an essential tool for ensuring version control and compliance with brand and regulatory guidelines, particularly when multiple stakeholders are working on projects. DAM software has evolved to support creative approvals and serve as a centralized hub for content distribution across channels including social platforms, the website, and other media. [6]

Domain
A domain is a user-friendly name that represents an IP Address or similar online location. This is similar to referring to “Joe’s House” instead of saying, “123 Park Ave.” For example, networkadvertising.org is a domain representing a website located on the IP Address 198.101.192.213 (as of the date of this writing). [18]

Dynamic Ad Insertion (DAI)
Technology that allows advertisers to swap out ad creatives in video on-demand content. [17]

Exchange
An ad exchange is a technology that facilitates automated, real-time auctions for online advertising. Publishers sell open ad spaces on websites to advertisers in real-time - it happens incredibly fast, just as a web page is loading. The matching of advertisements with ad spaces is similar to the "stock exchange" in the stock market, with buyers and sellers negotiating prices that fluctuate in real-time. Because the entire transaction is automated, it is an efficient process for publishers to sell their inventory without a huge sales team and for advertisers to buy ad spaces or impressions. [18]

Frequency Capping
The limit of how many times a given ad will be shown to a unique cookie during a session or within a specified time period. [9]

Hadoop
An open-source software framework administered by Apache that allows for storage, retrieval, and analysis of very large data sets across clusters of computers. [14]

Health Insurance Portability and Accountability Act (HIPAA)
A nationwide regulation that maintains the privacy and security of certain medical information pertaining to an individual. [11]

Identifier for Advertising on OTT
The Guidelines for Identifier for Advertising (IFA) on OTT platforms are recommendations on how to maintain a high-quality advertising experience within over-the-top television (OTT) environments. These technical guidelines provide instructions on best practices for delivering targeted ads, as well as controlling ad frequency and rotation across a wide variety of disparate smart TVs, connected devices, and other OTT systems. In order to be compliant with these guidelines, these three parameters must be sent as part of any ad request: identifier for advertising (IFA), IFA type, and Limit Ad Tracking (lmt). [17]

Identity Graph
An identity graph, or ID graph, is a database that houses all the known identifiers that correlate with individual customers. [11]

Identity Resolution
Identify resolution is the near real-time process of connecting hundreds of identifiers, used by different channels, platforms, and devices. It enables advertisers — along with supporting agencies, technology platforms, data owners, and publishers — to tie them back to the same person in a deterministic, privacy-safe way for people-based targeting, measurement, and personalization. [4]

Integration Platform as a Service (iPaaS)

Integration Platform as a Service (iPaaS) is a suite of cloud services enabling development, execution, and governance of integration flows connecting any combination of on-premises and cloud-based processes, services, applications, and data within individual or across multiple organizations. [8]

Interest-Based Advertising (IBA)
Interest-Based Advertising (IBA) is the collection of data across web domains owned or operated by different entities, or the use of such data, for the purpose of tailoring advertising based on preferences or interests known or inferred from the data collected. [18]

IP Address
An IP address (Internet Protocol Address) is an address to a computer, device, or online service. It may look like this: 198.101.218.235. This is how computers are able to identify each other and know where to send information over the Internet. In general, your computer or other device is assigned an IP address from the network you are using, and that's then used to send the website data back to your web browser. A similar process is used when your phone connects to the internet via Wi-Fi of mobile networks. Your computer or phone's IP address may change over time or as you change locations. [18]

Latency
1) The time it takes for a data packet to move across a network connection.
2) The delay between request and display of content and an ad. Latency sometimes leads to the user leaving the site prior to the opportunity to see it. In streaming media, latency can create stream degradation if it causes the packets, which must be received and played in order, to arrive out of order. [17]

Live Chat
Live chat is a tool usually available through an app or platform that enables your team to directly connect with your visitors. Think targeted instant messaging. Traditionally, live chat tends to skew more toward the sales and services industries, as it connects visitors directly with a member of your team and is best used in places where automation cannot solve unique questions or situations. [1]

Machine Learning
A method of designing systems that can learn, adjust and improve based on the data fed to them. Using predictive and statistical algorithms that are fed to these machines, they learn and continually zero in on “correct” behavior and insights and they keep improving as more data flows through the system. [14]

Marketing Automation
Marketing automation is the concept that underpins the use of MarTech. It encompasses the multitude of platforms that help companies improve engagement with customers and increase efficiency by automating manual tasks and processes. [6]

Marketing Resource Management (MRM)
Marketing Resource Management helps brands manage the production of content and collateral in a systematic fashion. Closely aligned with CRM and DAM systems (both covered in this section), a good MRM approach helps marketing departments to produce and dispatch assets and manage workflows. A key objective of MRM is effective brand management – most can be set up to templatize the look and feel of content, along with appropriate messages to deliver to customers. [6]

Marketing Stack
Your marketing stack is essentially all the technology you use to manage your marketing activities. The "stack" is an old technology idea that aims to order things by "layer." Roughly speaking, the marketing stack starts with the technology used to store, manage, and analyze your data. This is what's often called "the data layer." On top of that, you'll usually find technology to execute and optimize and manage campaigns. Your "application layer" includes marketing applications that are increasingly delivered as "SaaS" offerings, as well as media platforms, like Facebook, Google, Twitter, and Yahoo. To get maximum value from your data and technology investments, you need a "connectivity layer" that connects your data to your applications
and media platforms. Connectivity ensures data can be used to drive better experiences and results and also provides the marketing team with the flexibility to add in or swap out applications at will. [4]

Mobile Advertising Identifier
Most modern mobile devices (iOS 13, Android 9.0, and Windows 10 and above) provide mobile advertising identifiers. These are randomly-generated alphanumeric codes that are associated with your device that often come with options to reset the identifier and opt-out of Cross-App Advertising. These identifiers have different names depending on the operating system. For example, they are called Google Advertising ID (GAID) on Android devices whereas on iOS, they are called Identifiers for Advertisers (IDFA). They are included to provide advertisers a method to identify your devices without using a permanent device identifier, like your phone's serial number. [18]

Offline Data

This is data that's collected and stored in 'offline' systems, like CRM platforms, point of sale (POS) systems, email marketing platforms, and contact center applications. Typically, this data is tied to some form of personally identifiable information (PII), such as an email address, name, and postal address, or customer ID. [4]

Omnichannel Experience
An omnichannel experience is a multi-channel approach to marketing, selling, and serving customers in a way that creates an integrated and cohesive customer experience no matter how or where a customer reaches out. [3]

Omni-Channel Marketing
Omni-channel marketing seamlessly integrates the different communication channels that businesses use to communicate with customers. This approach uses the customers' perspectives and interests to optimize the consistency of the company's marketing messages. By uniting the strengths of each communication channel, marketing teams can use omnichannel marketing to deliver a more consistent and effective brand message. [3]

Optimization
Optimization in the sense of AdTech and MarTech refers to the refining of strategies to drive better results or business outcomes. It can include both manual changes — made by someone using the technology platforms — and automated updates through the use of algorithms (see earlier in this section). [6]

Opt-In Consent
As stated in the definitions of the 2020 Code "Opt-In Consent is an affirmative action taken by a user that manifests the intent to opt into an activity described in a clear and conspicuous notice. An NAI member may obtain Opt-In Consent directly from a user, or through reasonable assurances that a partner interacting directly with the user has obtained such consent on the member's behalf." [18]

Opt-Out Mechanism
An Opt-Out Mechanism is an easy-to-use mechanism by which users may exercise choice to disallow Tailored Advertising with respect to a particular identifier, browser, or device. [18]

Over-the-Top (OTT)
Over-the-Top refers to the content accessed via the internet without the involvement of a television

service provider. OTT includes Subscription Video-on-Demand (SVOD) services like Netflix as well as free ad-supported services like Hulu. 15

Over-the-Top Streaming Video (OTT Streaming Video)
Content streamed over the internet to a connected device (primarily connected TV, as well as other devices) without the need for set-top boxes or converters. 17

People-Based Marketing
People-Based Marketing is a growing discipline in which advertisers target people rather than individual cookies, devices, channels, or browsers. Leveraging real-time behavioral data combined with first-party brand data to connect the right people at the right time, with the right message brands can ingest and respond strategically to consumers in real-time across devices and channels, unifying the customer journey, and delivering an omnichannel experience. N/A

Personal Directory Information
Personal Directory Information is a calendar, address book, phone/text log, photo/video data (including any associated metadata), or similar data created by a user that is stored on or accessed through a device. 18

Personalization Engine
Personalization Engines are software that power a brand's owned and operated channels (website, mobile app, email, etc.) to deliver customized experiences for users based on what is known about them. This data-driven approach can dynamically tailor content including messaging, imagery, and offers based on customer attributes, previous behavior, or interests. This service is typically used to drive online retailer and entertainment offerings and on social media platforms. It is also used to improve customer engagement and conversion, branding, and to increase the time that consumers spend on particular websites. 6

Personally Identifiable Information (PII)
Personally Identifiable Information is data that uniquely identifies a consumer. PII is deterministic — i.e. you know it is the person, as opposed to probabilistic — meaning it is likely to be the person. The data can include full name, address, email address, and date of birth, for instance. PII data is mostly collected when consumers sign up for services and share personal profile details. There are strict laws in place about ascertaining, storing, and using PII for marketing and advertising purposes. 6

Precise Location Information

Precise Location Information is data that describes the precise geographic location of a device derived through any technology that is capable of determining with reasonable specificity the actual physical location of an individual or device, such as GPS-level latitude-longitude coordinates or location-based radio frequency signal triangulation. [18]

Predictive Analytics
Predictive analytics tools facilitate an advanced kind of analysis that uses marketing and advertising data to preempt what consumers are most likely to do next. Brands apply predictive analytics to gain a more informed view of their audience and customize future advertisements to increase relevance. For example, several historical data points such as salary, payment history, and browsing behavior can help determine if someone is likely to become a credit card customer or not. [6]

Probabilistic Data
Probabilistic data in an audience group with a high probability to have been accurately profiled. Probabilistic data is created from a subset of deterministic data from which a model is built to identify a larger targeted audience. [11]

Programmatic
Media or ad buying that uses technology to automate and optimize, in real-time, the ad buying process. This ultimately serves targeted and relevant experiences to consumers across channels. On the back end, algorithms filter ad impressions derived from consumer behavioral data, which allows advertisers to define budget, goal, and attribution, and optimize for reduced risk while increasing ROI. [9]

Pseudonymous Identifier
A meaningless but unique number that does not allow the RP to infer anything regarding the subscriber but which does permit the RP to associate multiple interactions with the subscriber's claimed identity. [19]

Real-Time Bidding (RTB)
RTB is an auction for online advertising. Advertisers place bids on the opportunity to show an ad on a web page. The "real-time" part means that it happens very quickly -- in milliseconds -- at the moment a page is loaded. [18]

Retargeting

Retargeting is the practice of collecting data about a browser's or device's activity in one unaffiliated web domain or application, or the use of such data, for the purpose of customizing an advertisement in a different, unaffiliated web domain or application, or on a separate covered device. [18]

Return path data (RPD)
TV tuning data that comes from set-top boxes in cable and satellite subscribers' homes. It can include information like the programs subscribers watch, when they watch them and where the subscriber households are located. This data helps enable audience measurement and addressable advertising capabilities. [17]

Semi-structured Data
Data that is not structured by a formal data model, but provides other means of describing the data hierarchies (tags or other markers). [14]

Sensitive Information
Sensitive Information includes:
• Social Security Numbers or other non-publicly available government-issued identifiers;
• Insurance plan numbers;
• Financial account numbers;
• Information about any past, present, or potential future health or medical conditions or treatments, including genetic, genomic, and family medical history, based on, obtained or derived from pharmaceutical prescriptions or medical records, or similar health or medical sources that provide actual knowledge of a condition or treatment (the source is sensitive);
• Information, including inferences, about sensitive health or medical conditions or treatments, including but not limited to, all types of cancer, conditions predominantly affecting or associated with children and not treated with over-the-counter medication, mental health-related conditions, and sexually transmitted diseases (the condition or treatment is sensitive regardless of the source); and
• Information, including inferences, about a user's sexual orientation. [18]

Server-Side Ad Insertion (SSAI)
Server-side ad insertion (often referred to as "ad stitching") is the process of stitching video content and ads together on the server side level rather than on the browser level (Client-Side Ad Insertion). Videos and video ads are coming from different places—videos typically come from a content delivery network (CDN) and ads from an ad server (video ads can also be served from CDNs, although content CDNs and ad

CDNs often differ). These are then combined on the fly when people start watching videos. With server-side ad stitching, that combination of video and advertising happens on the backend.

Server-side ad insertion allows for smoother ad user experiences as users do not have to wait for players to fetch ads and render them in real-time. The stitching is all done before the user getting the ad break/pod. In the ad stitching process, ad specs are matched with content specs resulting in a more consistent viewer experience as the ad quality will match the content quality.

SSAI also allows publishers to mitigate ad blocking, as video content and ads are stitched together as a cohesive stream on the server-side which allows them to bypass browser or device-level detection/blocking. When a browser or device-level script makes a call to the ad-decisioning system, the ad blocker can identify that signal, as opposed to a server-side script where the ads are already stitched into the player's content, making it impossible to distinguish an ad from the content.

This is a great solution for a publisher, however, advertisers may have concerns with the measurement being made server-side and request such delivery to be distinguished in reporting. [17]

Software as a Service (SaaS)
Enables vendors to host an application and make it available via the internet (cloud servicing). SaaS providers provide services over the cloud rather than hard copies. [14]

Structured Data
Data that is organized according to a predetermined structure. [14]

Tag Management System
A tag is a piece of code that helps track users' online behavior and engagement with a brand's assets, whether on the website, with a digital ad, or with an email. Brands with an extensive digital presence (website, mobile app, social media pages, large digital ad spends, etc) commonly have a high volume of digital marketing and advertising tags. A tag management system helps manage these tags and ensures all possible touchpoints with prospects and customers are tracked. Solutions inside tag management can include campaign analytics, audience measurement, and conversion tracking tools. [6]

Tailored Advertising

Tailored Advertising is the use of previously collected data about an individual, browser, or device to tailor advertising across unaffiliated web domains or applications, or on devices, based on attributes, preferences, interests, or intent linked to or inferred about, that user, browser, or device. Tailored Advertising includes Interest-Based Advertising, Cross-App Advertising, Audience-Matched Advertising, Viewed Content Advertising, and Retargeting. Tailored Advertising does not include Ad Delivery and Reporting, including frequency capping or sequencing of advertising creatives. 18

Taxonomy
A way of organizing data into categories and subcategories to enable greater segmentation and filtering. N/A

Third-Party Cookies
Cookies set by the websites you visit are typically “first-party” cookies. The sites you visit may work with ad networks or other service providers to help provide content or services, including advertising. Those partners also use cookies. But because these partners place cookies using their own web domains, they are called “third-party” cookies. NAI members, working with publishers, use third-party cookies to make advertising more engaging to users and more valuable to publishers and advertisers. 18

Unique User/Device ID (UDID)
Sometimes called UDID; identifier assigned to a device or user that lasts until the device is reset or the account is deleted. 15

Unique Visitor
A person who visits a website more than once within a period of time. Advertisers use this term in contrast with overall site visits to track the amount of traffic on their website. If only one person visits a webpage 30 times, then that web page has one UV and 30 total site visits. 2

Unstructured Data
Data that has no identifiable structure, such as email message text, social media posts, audio files (recorded human speech, music), etc. 14

User-Generated Content (UGC)
Content that is voluntarily generated by individuals* that has the potential to create engagement and/or drive the conversation. *Individuals are defined as those who do not have a material connection with a brand. This would exclude paid influencers or professional bloggers. 17

User Interface (UI)
A type of interface that allows users to control a software application or hardware device. A good user interface provides a user-friendly experience by allowing the user to interact with the software or hardware in an intuitive way. It includes a menu bar, toolbar, windows, buttons, and so on. 2

Variety
The different types of data available to collect and analyze in addition to the structured data found in a typical database. Categories include machine-generated data, computer log data, textual social media information, multimedia social, and other information. 14

Velocity
The speed at which data is acquired and used. Not only are companies and organizations collecting more and more data at a faster rate, but they also want to derive meaning from that data as soon as possible, often in real-time. 14

Veracity
Ensuring that data used in analytics is correct and precise. 14

Video level data
Information about a video is comprised by analysis of available metadata, which is used to help users search for videos and help advertisers with content targeting efforts. 17

Virtual MVPD (vMVPD)
New form of digital-only cable alternative which provides access to on-demand and live content delivered over the internet without the traditional network infrastructure (i.e. DirecTV Now, Hulu with Live TV, PlayStation, Sling TV, Vue). 17

Virtual Reality (VR)
An experience that is made to be significantly more immersive than standard video assets. VR allows a user to be completely immersed into an environment of the advertiser’s choice

Ads within VR must occur within either a designated ad space (such as a street-side billboard), as a video (that might play in a virtual home TV or virtual movie theater), or as an object (such as a branded bag of potato chips on the table). Fully branded 3D scenes can also be created as 'Virtual Rooms'. [17]

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