



# Digital Out of Home

## A Primer | Section 3

Buying & Selling: How do digital out of home transactions work?

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DOOH is more than a marketing channel; it is a behavior. It is present throughout consumers' travels and daily routines, whether commuting to work, visiting family or taking a road trip. These screens are uniquely positioned as a communication channel that reaches consumers with unparalleled frequency, especially considering on average consumers spend 75 percent of their time on-the-go.

While out of home is one of the original advertising mediums, digital advancements are continually introduced to give consumers the dynamic interactivity, social connectivity, and relevant local brand messaging they value, in real-time, driven by data that fosters authenticity. Buyers utilize familiar data-driven capabilities to increase efficiency for marketers to reach their customers at the right time in the right place. Critically, these advancements have also finally allowed for the scaling of campaigns across multiple mediums, including DOOH.

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## How ad buyers buy ads

Ad buyers buy ad space on DOOH networks because of the audience, location, timing, share of voice and context of the placement on the network. They pay for either a placement or for impressions (typically priced on a CPM -- cost per thousand -- impressions).

DOOH ads are bought generally in one of two ways:

The first is in a direct, relationship-based transaction between a network and an advertiser. There may be other players within this relationship -- networks may sell via a rep firm and buyers often buy via an agency, but it is a direct transaction, in which pricing and inventory are negotiated between the two players.

DOOH can also be purchased through a programmatic transaction, in which ad sales are automated using software and data. Programmatic technology allows for inventory to be bought and sold in an automated fashion and also enables targeting, measurement and data-driven purchase decisions as well as streamlined ad serving, performance tracking and campaign optimization.

### Direct from Media Owner

Ad buyers can purchase inventory directly from network owners. These buys are well suited for campaigns that require guaranteed inventory placements in specific locations, such as experiential, full takeovers or highly customized executions.

## Via an Outdoor Specialist Agency

“Outdoor specialist” agencies can be found within international agency holding companies as well as many independent organizations in the market. The outdoor specialist grew out of the need to have people in each market (or DMA -- designated marketing area) who knew where all the billboards were located and what was available to buy at any given time. They had “specialist knowledge” on the medium, hence the name.

Today, media planning agencies will work with outdoor specialists within their holding company or an independent organization to help with the planning, buying and placement of outdoor media, including DOOH. Many brands also work directly with outdoor specialists because they still offer specialist knowledge about the medium and often have planning tools unique to the medium. They also have buying power since they are brokering high-value deals on a regular basis.

## Programmatically

“Programmatic” refers to the automation of buying and selling of advertising through software. This is executed via an auction-based marketplace, also known as an exchange, or through private-marketplace deals.

Essentially, network owners (also sometimes referred to as “publishers” or “media owners”) provide available inventory discoverable at the individual impression or spot level. Buyers can evaluate and bid on that inventory in real-time, based on certain business rules such as audience criteria, price and more.

For buyers, this is typically executed through a Demand Side Platform (DSP). A DSP is a computer-based platform that automates media buying across multiple sources. DSPs combine wide access to inventory, the ability to apply data-driven targeting rules, real-time bidding capabilities and the ability to serve, track and optimize ads.

Programmatic buying platforms offer advertisers aggregate supply through a single point of access. This means buyers can access a full ecosystem of inventory instead of individually navigating transactions across a fractured media landscape. This provides a centralized purchasing process and better transparency into budgets and campaign performance.

This streamlined buying process eliminates the need to manage individual contracts and insertion orders (IOs). The more efficient workflow that comes with programmatic means that buyers can execute large-scale media programs with much smaller teams.

Furthermore, programmatic allows for the use of data to inform buying decisions across those large-scale media programs. Programmatic technology leverages data to assess every ad placement at the impression/spot level, for truly data-informed purchasing.

Finally, centralized buying through programmatic platforms allows marketers to apply an overarching measurement solution, providing clearer performance and impact insights through aggregated measurement.

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## How to sell ads

### In-house Sales

DOOH networks can sell ad inventory directly to ad buyers. This is a traditional way of doing sales, largely relationship based. It will be a good option for network owners that want to have ads from local businesses.

### Rep Firm

Network owners may want to sell direct without using software or programmatic, but not have the capabilities of using an in-house sales team. In this case, they might hire a rep firm or company that specializes in selling advertising on DOOH networks. This is a good option for niche networks, in which a rep firm could represent multiple networks with a unique value proposition to the ad buyers who would like to reach those networks' audiences.

### Programmatic Platform

As described above, "programmatic" refers to the automation of buying and selling advertising through software. For DOOH media owners, they can sell their inventory via a supply-side platform (SSP).

An SSP is a computer-based platform that automates media selling across multiple demand sources and a software tool that media owners use to make their inventory available via an exchange. An ad exchange is a digital marketplace that enables advertisers and media owners to buy and sell ad placements via an auction. The ad exchange receives the inventory details, announces each impression/spot and asks buyers if they are interested in buying said impression/spot and at what price.

Programmatic platforms provide media owners (also sometimes referred to as publishers) with aggregate demand, by offering inventory to a large set of buyers through a streamlined access point. Media owners can make inventory discoverable in an instant by leveraging a programmatic exchange. This also enables media owners to access programmatic advertising

groups beyond the standard channel buyers (e.g., digital buyers, agency trading desks, etc.), thus creating a new revenue stream.

Thanks to this large connection to demand, programmatic helps monetize unsold inventory. Through a channel that requires minimal effort, media owners can expose unsold inventory to digital buyers for bidding, effectively maximizing the yield on their full network.

Programmatic technology allows media owners to curate inventory by segmenting target audiences. By surfacing inventory that best aligns with specific audience goals, media owners can justify increased advertiser spend as they'll be reaching their intended customers with efficiency.

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## What are ad buyers buying and why?

### Impressions

An impression is a unit of measure that includes the total number of people with an opportunity to see and notice an ad and that person's dwell time, calibrated to the media spot's length. It can also be defined as the total number of times people passing a DOOH display are likely to notice a message.

Impressions can be measured directly using several different methods, or extrapolated from data published by third parties such as Geopath and Nielsen on either large format or Digital Place-Based types of displays/networks.

Geopath reports impressions and ratings for DOOH advertising across thousands of demographics. Geopath reports each ad unit or spot separately within each digital structure. Using data from mobile devices, connected cars and inputs from its viewability model (Visibility Adjustment Indices, or VAIs), Geopath calculates a dwell time and contact zone that is unique for each location, then calculates how many people see each spot on each structure. This process is applied to street-side, street furniture, transit digital advertising and place-based locations. Variables include traffic speed and congestion, maximum noting distance, road type, digital noticing rate and ad length.

Nielsen's On Location studies measure similar metrics for venue-based DOOH networks. Their studies showcase metrics with average spot impressions, gross impressions and audience distributions across various demographic breakdowns for specific place-based networks. Traffic data is modeled using a variety of transactional inputs, syndicated data sets and on-site counts, while demographic data is collected through a combination of on-site counts, in-person intercepts and online surveys.

Geopath, OAAA and other organizations have also worked with the Media Ratings Council (MRC) to develop standards for audience and ad measurement across all types of OOH media. The MRC is a government entity established by Congress that has the mission “to secure for the media industry and related users audience measurement services that are valid, reliable and effective; to evolve and determine minimum disclosure and ethical criteria for media audience measurement services; and to provide and administer an audit system designed to inform users as to whether such audience measurements are conducted in conformance with the criteria and procedures developed.”

In addition to data provided by third parties, network owners can also provide their own impression data that is collected a variety of ways -- using technology such as computer vision, surveys, in-person intercepts, geofencing and others. If you collect impression data for your network, it’s important that you disclose your venue traffic, screen traffic and screen audience measurement activity recording process to buyers and other users of the measurement data. An organization’s methodology for accumulating media advertising audience measurements should be described in detail to users of the data, including methods for calculating unit audiences where applicable. Specifically, the nature of counts and/or measurements, methods of sampling used (if applicable), data collection methods employed, data editing procedures or other types of data adjustment or projection, calculation explanations, reporting standards (if applicable), reliability of results (if applicable) and limitations of the data shall be included in the disclosure.

The following presents examples of the types of information disclosed.

### **Nature of Digital Place-Based Media Audience Measurements**

- Name/type of venue and displays included in the measurement, including display classification parameters
- Name of measurement report
- Measurement period
- Type of measurements reported
  - Time periods included
  - Days included
  - Universal estimates and coverage estimates used for projection or basis for measurement (measurement unit)
  - Venue or Geographic Areas
  - Significant sub-groupings of data
    - Demographic categories
- Formats of reported data
- Special promotions impacting measurements

- Auditing applied and directions to access the audit report
- Sampling/projections used
  - Sampling methods Used
  - Explanation of projection methods

### **Data Collection Methods Employed**

- Method of data collection
- Venue level data
- Display level data
- Audience qualifiers, views specifics, etc.
- Types of data collected
  - Surveys, diary, observations, electronic measurements, etc.
  - Frequency of collection
- Contacts with users (if applicable)
- Research on accuracy of basic data
  - Latency issues with periodic measurement, as applicable
- Rate of response (if applicable)

### **Editing or Data Adjustment Procedures**

- Checking records for completeness
- Consistency checks
- Accuracy Checks
- Rules for handling inconsistencies
- Circumstances for discarding data
- Handling of partial data records
  - Ascription procedures

### **Computation of Reported Results**

- Description of how estimates are calculated (illustrations are desirable)
- Weighting techniques (if applicable)
- Verification or quality control checks in data processing operations
- Pre-release quality controls
- Reprocessing or error correction rules

### **Reporting Standards (if applicable)**

- Requirements for inclusion in reports, based on minimum activity levels
- Demographic and geographic breaks reported - See DPAA Audience Metrics Guidelines for recommended breaks



## Reliability of Results

- Sampling error (if applicable)

## Data retention rules

- Maintaining sufficient data or processes that allow for audit trail

## Limitations on Data Use

- Non-sampling error
- Errors or unusual conditions noted in reporting period
- Limitations of measurements

In addition to paying for impressions, ad buyers will often pay a premium for access to real-time analytics. This data, which is only available through the use of new technologies (and not older ways of analytics collection, such as surveys, which are too slow to be useful here), is helpful to advertisers because it allows them to test and optimize campaign content and adjust quickly.

## Audience

Ad buyers may also buy based on audience, usually defined either by average statistics for a location where a DOOH network (or single display) is installed or by additional data that indicates movement patterns or locations of a desired audience (typically through the use of mobile location data).

There are a some key terms you should understand that will help you understand how marketers in particular talk about audience:

**Audience composition:** Attributes of the audience of a given campaign or set of campaigns. Very often based on demographic (e.g., 56% male / 44% female) or geographic attributes.

**Audience reach:** Percentage of an addressable target audience reached by a given campaign.

**Behavioral profiles:** Profile based on past-observed behavior, typically within 30-90 days of recency. Behavioral profiles may or may not refer to a profile about unique users.

**Behavioral segments:** Segmenting audiences that are defined by previous behaviors, frequently their recent online behavior, or offline purchases and visitation. For example, an auto advertiser may seek to reach anyone who's visited an auto review site in the last 30 days.

**Buyer-graphic:** Profile based on past purchase behavior, such as: What items? When? How much was spent?

**Census demographics:** The U.S. Census Bureau's population statistics.

**Consumer spending data:** Data on consumer spending.

**Demo targeting:** Targeting audiences that are defined by demographic attributes, e.g., age, gender, household income, presence of children.

**Geographic targeting:** Targeting audiences defined by their location in the real-world. Location attributes can vary from granular attributes such as mobile/GPS-enabled latitude/longitude data to broader attributes such as DMA or state/province. In technical specifications, targets may simply be referred to as "geo," "user," or "audience" without spelling out the full term.

**Look-alike targeting:** Targeting audiences that have some number of attributes in common with an audience of interest. For example, an advertiser may target "look-alikes" of past purchasers, i.e., people who share demographic or behavioral characteristics of past purchasers, but have not themselves made a purchase.

**Psychographic targeting:** Targeting audiences defined by personality, interests, attitudes or mindsets, e.g., financial optimists or environmentally-conscious consumers. Often driven from offline surveys and stated preferences.

**Retargeting:** Targeting audiences that are defined by having recently shown interest in an advertiser or having been previously exposed to a campaign in some fashion. In the online world, interest most often is defined as visiting the advertiser's website. In DOOH, this might be based on audiences exposed to a DOOH campaign previously.

**Segmentation:** Dividing a broad group of consumers or businesses into subgroups (known as segments) based on shared demographic/psychographic/behavioral attributes. Segmentation is often used to create target audiences (comprised of one or more segments) or to customize an offer or message for specific segments.

**Target audience:** A specific group that an advertiser seeks to reach with its campaign. Target audience is defined by a certain attribute or set of attributes (e.g., women aged 18-24, sports car lovers, shoppers in-market for a new sedan).

## Time/Share of Voice

Ad buyers also sometimes buy based on the length of time their ad is on a screen and how often their ad is shown. They may also buy based on Share of Voice (SOV), which is how often and for how long their ad is visible vs. the time other content is visible.

Digital billboards serve as a simple example for demonstrating how SOV is calculated. A typical loop-based digital billboard has eight slots in a loop, each 8 to 10 seconds long. Each advertiser therefore receives  $\frac{1}{8}$  SOV if 100% of the inventory is sold. An advertiser could buy multiple slots to increase their SOV.

Ad buyers can also buy based on frequency, where instead of a spot-in-loop calculation, campaigns are scheduled based on the number of times an ad will play in a given hour on a given display.

## Location

DOOH media is frequently bought based on location. Many advertisers -- those seeking space in specific markets -- buy inventory based on CBSA (core based statistical area) or DMA (designated marketing area). Location can also be much more specific than just a geographic area. Even without other demographic information, a person's presence at a specific location or venue provides data valuable to an advertiser, such as proximity to points of interest.

Location can be especially valuable when marketers use location for the creative design of a campaign. For example, British Airways purchased digital billboard space in Piccadilly Circus, not only because of the huge audience numbers in that location, but also because British Airways planes were easily visible flying overhead from that location. Using specialized surveillance technology, they were able to design an ad campaign called #LookUp, in which a video of a child shows him "looking" at the plane flying overhead and puts details about the specific flight that is flying right then. In this example, the ad says "Look up, it's flight BA475 from Barcelona."

## Context

Using data and taking into consideration location and time of day, marketers can also use context to design highly targeted campaigns that make a big impact on consumers. The evolution of OOH to DOOH has allowed for fast updates and even real-time updates depending on changes in context. By layering data from third party sources (weather, time of day, day of the week) and even input from viewers with ad content, dynamic and engaging DOOH campaigns can be created in real-time.

An ad on a DOOH display could update if it's raining in the location it's visible in or the temperature dips below a certain percentage. An ad on a digital highway billboard fans see

after watching a game at a sports stadium could change depending on if the team won or lost. Ads can be run for very short periods based on specific events. For example, ads on a train in Chicago the weekend of the Chicago marathon can be marathon-themed or geared toward runners visiting from out of town.

Interactivity also allows another kind of context for ad content. Interactive touch displays in a retail store can have content that engages directly with consumers, letting them decide what content they want to look at and for how long. When combined with social media, displays can integrate user-generated content such as photos or video in real-time into an ad.

Context lets marketers engage more directly with consumers, making the campaign more relevant, memorable and higher impact. The method that allows ad content to be changed in real-time based on data and/or context changes is called dynamic creative optimization.

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## Inventory Access & Ad Placement

### Slots & Loops

Slots and loops are how DOOH has been traditionally bought and sold. A display has a schedule of ads that recur in a set rotation.

### Ad Serving

Ad servers allow publishers to control their ad schedule for more flexibility outside of a spot-in-loop structure. Ads can be scheduled based on business rules that account for shifting inventory availability, pricing requirements, different types and lengths of creative, time of day and audience-based campaigns. Most digital signage software is integrated with an ad server, which allows network owners to schedule, plan and sometimes create all of their content.

Ad servers can also be controlled on the advertiser's end, allowing advertisers direct control over the serving and tracking of their ads. The ad serving code would be embedded in a slot on the media owner's platform, but control over what's being served in that location would stay with the advertiser.

### Guaranteed vs. Non-Guaranteed

In a programmatic marketplace, there are different types of transactions. These guidelines use four discrete types of "programmatic" transactions -- Automated Guaranteed, Non-guaranteed Fixed Rate, Invitation-Only Auctions and Open Auctions. Some transactions, but

not all, allow buyers to guarantee placement on specific networks or displays, in specific locations or at specific times (or all of these).

Automated guaranteed transactions have reserved inventory with fixed pricing. It allows network owners to set a specific price on specific inventory for a specific ad buyer.

Non-guaranteed fixed rate transactions have unreserved inventory with fixed pricing. Network owners set aside ad inventory and fix a price for it, but offer it up to any ad buyer that is willing to purchase at that price.

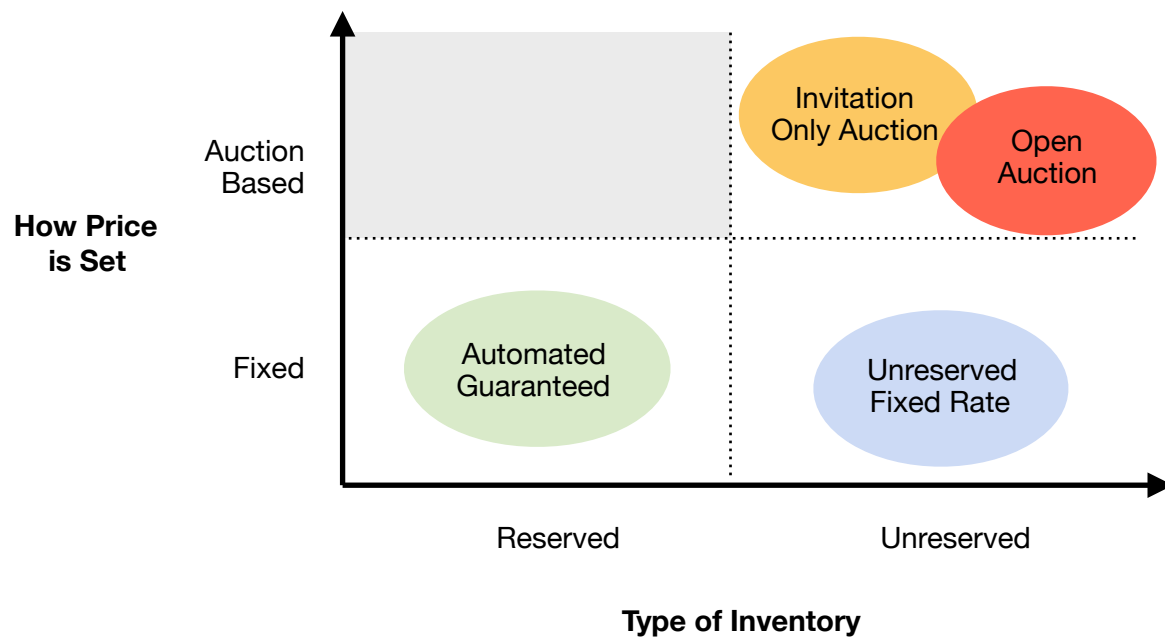
Both invitation-only auctions and open auctions are RTB (Real Time Bidding) based auctions without fixed pricing. For invitation-only auctions, participants have to be invited. This lets ad buyers bid in real-time against other buyers on specific types of network ad space (hence the invitation-only), but transact on impressions without having to commit a specific ad spend up front.

	<b>Type of Inventory</b> (Reserved <sup>1</sup> , Unreserved)	<b>Pricing</b> (Fixed <sup>2</sup> , Auction)	<b>Participation</b> (One Seller-One Buyer, One Seller-Few Buyers, One Seller-All Buyers)	<b>Other Terms Used in Market</b>	<b>Other Considerations</b>
Automated Guaranteed	Reserved	Fixed	One-One	Programmatic guaranteed Programmatic premium Programmatic direct Programmatic reserved	<ul style="list-style-type: none"> <li>• <b>Prioritization in the ad server</b></li> <li>• <b>Deal ID</b></li> <li>• <b>Data usage</b></li> <li>• <b>Transparency to buyer</b></li> <li>• <b>Price floors</b></li> </ul>
Unreserved Fixed Rate	Unreserved	Fixed	One-One	<b>Preferred deals</b> <b>Private access</b> <b>First right of refusal</b>	
Invitation-Only Auction	Unreserved	Auction	One-Few	<b>Private marketplace</b> <b>Private auction</b> <b>Closed auction</b> <b>Private access</b>	
Open Auction	Unreserved	Auction	One-All	<b>Real-time bidding (RTB)</b> <b>Open exchange</b> <b>Open marketplace</b>	

1. Reserved Inventory is advertising space on a publisher's site that is put aside for a specific advertiser for an agreed price
2. Fixed Price is any arrangement where the buyer and seller agree on a flat price that the buyer pays rather than the highest bidder in an auction environment

### Mapping the Programmatic Technology

These four types of transactions can be visually mapped based on two key criteria -- how the price is set and what type of inventory is being transacted.



Source: Interactive Advertising Bureau 2019

### **ABOUT THE DOOH PRIMER**

This project was compiled using a combination of original writing and sections taken from over 400 pages of documents owned and originally produced by the five industry associations that came together to produce the project. All sources were used with permission from the five associations.

### **ABOUT THE DIGITAL SIGNAGE FEDERATION (DSF)**

DSF's Mission is to support and promote the common business interests of the world-wide digital signage, interactive technologies and the digital out of home network industries. The DSF is a not-for-profit independent voice of the digital signage industry reflecting the diversity of its membership. It promotes professional recognition through certifications, continuing education, conferences, publications, and presentations offered by the DSF and affiliate groups. It provides advocacy by leveraging the collective strength of members and represent their interests at the higher levels of government and the community. The DSF provides leadership and networking opportunities focused on building a strong foundation for the advancement of the digital signage industry.

For more information, please visit [digitalsignagefederation.org](http://digitalsignagefederation.org).

### **ABOUT THE DIGITAL PLACE BASED ADVERTISING ASSOCIATION (DP-AA)**

The Digital Place Based Advertising Association (DPAA) leads the Digital Out of Home (DOOH) industry as marketing to consumers *outside* the home is experiencing aggressive growth versus advertising *inside* the home, which is continuing its fragmented decline.

DPAA fosters collaboration between advertisers, agencies, ad-tech, mobile companies, location data, software, hardware and others while providing guidelines, standards, best practices and industry-wide research all promoting the effectiveness of digital place based advertising.

For more information, please visit [dp-aa.org](http://dp-aa.org).

### **ABOUT GEOPATH**

Founded in 1933, Geopath is the industry standard that powers a smarter OOH marketplace through state-of-the-art audience location measurement, deep insights and innovative market research. The organization is headquartered in New York and governed by a tripartite board composed of advertisers, agencies and media companies spanning the entire United States.

For more information, please visit [geopath.org](http://geopath.org).

### **ABOUT THE INTERACTIVE ADVERTISING BUREAU (IAB)**

The Interactive Advertising Bureau (IAB) empowers the media and marketing industries to thrive in the digital economy. Its membership is comprised of more than 650 leading media and technology companies that are responsible for selling, delivering, and optimizing digital advertising or marketing

campaigns. The trade group fields critical research on interactive advertising, while also educating brands, agencies, and the wider business community on the importance of digital marketing. In affiliation with the IAB Tech Lab, it develops technical standards and best practices. IAB and the IAB Education Foundation are committed to professional development and elevating the knowledge, skills, expertise, and diversity of the workforce across the industry.

For more information, please visit [iab.com](http://iab.com).

### **ABOUT THE OUT OF HOME ADVERTISING ASSOCIATION OF AMERICA (OAAA)**

The Out of Home Advertising Association of America (OAAA) is the national trade association for the \$7.8 billion US out of home (OOH) advertising industry, which includes digital out of home (DOOH), and is comprised of billboards, street furniture, transit advertising, and place-based media.

Comprised of 800+ member media companies, advertisers, agencies, ad-tech providers, and suppliers that represent over 90 percent of the industry, OAAA is a unified voice, an authoritative thought leader, and a passionate advocate that protects, unites, and advances OOH advertising in the United States.

For more information, please visit [oaaa.org](http://oaaa.org).

### **ABOUT THE RAVE AGENCY**

Founded in 1998, THE rAVe Agency, co-owned by Gary Kayye and Sara Abrons, is a creative agency focused on B2B technology markets, particularly the audiovisual and digital signage industries. It offers consulting and creative services such as marketing strategy, market research, speaking, social media marketing and more. Gary Kayye has been an assistant professor at the UNC School of Media and Journalism, focused on advertising and new media, since 2009.

For more information, please visit [THErAVeAgency.com](http://THErAVeAgency.com).

