PILOT First-Party Data Direct-to-Consumer Accelerator

NAVIGATING BROADCASTING'S FUTURE

PILOT First-Party Data/Direct-to-Consumer Accelerator

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PROGRAM OVERVIEW

Solving a $2 Billion Problem
Privacy changes affecting digital advertising will have a significant impact on broadcasters. This report details an industry collaborative, led by PILOT – NAB's innovation arm – to develop first party data strategies to mitigate broadcasters' revenue loss and ensure stations can leverage audiences while ensuring privacy protections. The digital advertising industry is moving away from third-party cookies based on changing user expectations and global regulations. This could create a $2.1 billion loss in annual digital revenue for the broadcast industry.* Without question, this is the highest priority for digital leaders at broadcast companies. PILOT has been working with these leaders to mitigate that loss while expanding first-party relationships with listeners and viewers.

PILOT, with support from the Google News Initiative, created an accelerator program focused on direct-to-consumer strategies to help broadcasters leverage audiences that have largely remained anonymous, while also ensuring privacy protections. The program consisted of ongoing broadcaster education and design and testing of broadcast strategies. It was structured to facilitate dialog and share ideas among the broadcast industry. This report is the result of this collaboration. All findings, use cases, examples, learnings and suggestions based on the work and output of the nine participating companies representing business, technology and audience engagement areas.

All information and recommendations contained in this report are from PILOT and the participating broadcasters independent from Google.

We thank the following companies that participated:
- Beasley Media Group
- Capitol Broadcasting Company
- E.W. Scripps
- Graham Media Group
- Gray TV
- Hubbard Radio
- Morgan Murphy Media
- TEGNA
- Salem Media Group

Format
Participants met over a period of six months for high-level project sharing and ongoing education. During these gatherings, each company shared the progress of their individual projects and heard from industry experts on privacy and first-party data strategies.

Participants also divided into two distinct working groups that met weekly and focused on engagement and revenue. During these meetings, a broadcaster provided a deep overview on their organization's strategy and progress. Additionally, other participants shared updates on their work as needed and solicited other participants for ideas, thoughts and suggestions.

** Borrell Associates, September 2022, State of the Industry Report: What The Loss Of Third-Party Cookies Means For Broadcasters*

Additionally, each broadcaster was tasked with creating a specific hypothesis that could be developed, executed and tested during the program. The premise was to ask a specific question, create a plan and report the results. Each company met with PILOT to share ongoing progress and provided presentations during the full group gatherings. The organizations each created final reports of their hypotheses, all of which are included in the appendix.

SUMMARY AND RECOMMENDATIONS

The global focus on privacy is impacting media consumption patterns and leading to the eventual loss of third-party cookies. This could lead to a $2.1 billion revenue loss for broadcasters (an annual loss of $1.1 million for the average TV station and $735,163 for the average multi-station radio market cluster).*

PILOT – NAB's innovation arm – led a collaborative of digital leaders of broadcast companies to identify a solution through the First-Party Data Direct-to-Consumer Accelerator. In addition to the revenue impact, this program considered important issues such as content direction, product marketing and privacy compliance.

An important takeaway is that broadcasters should already be focused on assessing, implementing and leveraging first-party data as a tool for mitigating the loss of third-party data revenue and cultivating an ongoing, direct relationship with viewers, listeners and users. In addition to ensuring appropriate privacy protections and helping to shield against revenue losses, first-party data is far more reliable and usable than third-party data. The recommendation for those who have not yet begun this work is to prioritize it immediately.

While operational costs can be estimated for launching a first-party data practice, the unknowns surrounding revenue in a post third-party cookie world could lead some to adopt a wait-and-see strategy. The assumed shift in valuation to first-party data would put those who adopt the wait-and-see approach at a distinct disadvantage because third-party cookies are being deprecated across many platforms. They would have squandered valuable time to streamline processes and amass as much first-party data as possible. As one broadcaster put it, "you can't compare first-party data to third-party data now – the question is what happens when third-party data goes away – which it will."

A decision to act should be a proactive choice by an organization's CEO and executive leadership team. The most effective path is often the empowering of a cross-functional data analyst whose sole focus is to create and implement a cohesive, enterprise-level data strategy. This person might already be within the organization or, more often, hired specifically for this role. The result needs to be a multi-faceted organizational effort, with participation by all departments including technology, engineering, sales, operations, legal, content and more. Often, new vendors are required to fill specific needs or existing vendors are challenged to adapt currently provided services. This program uncovered that there is no "one size fits all" strategy for broadcasters. How the data practice is organized, the tools and vendors required, the first-party data exploitation goals and more vary by organization.

Rigorous testing should begin once pieces are put in place. Again, different areas of the business will have different goals and therefore tests will most likely center around collection and consent, audience segmentation, client and sales tactics and conversion. An overview of the tests and outcomes conducted during this program is provided within this report. Even a failed test can yield valuable learnings.

** Borrell Associates, September 2022, State of the Industry Report: What The Loss Of Third-Party Cookies Means For Broadcasters*

PILOT was honored to lead this collaborative innovation effort. For broadcasters with multi-market ownership, the opportunity to engage specific properties or market teams can be a powerful, motivational tool for local employees. Local participation can also help in training across markets with the goal of replicating successes and sharing key learnings.

BUILDING INTERNAL CONSENSUS

Executive Buy-In

This decision to move forward on a first-party data strategy presents a new challenge for media executives: should an investment in time, effort and budget be made to set and manage first-party data policies and practices, and what does that investment look like? Participating broadcasters revealed digital consumer data is tied to every part of a media business (revenue, sales, content, product, marketing, innovation, technology, etc.) and that a company's entire executive leadership team, not just legal, benefits from a top-down approach in embracing a path forward. Championing an enterprise strategy is most effective at removing any internal alignment challenges.

How best to move forward? As a first step, most organizations prioritized assessing associated first-party data acquisition benefits and third-party data loss risks. But who best to lead that effort? Great leaders often surround themselves with topic experts and deputizing or hiring someone with significant analytic skills to work cross-functionally appears most effective. Often, this is not the same person who leads traditional, linear data/rating analysis. While an adept chief operating officer or chief financial officer could also take charge during this early stage, one empowered person's singular focus could lead to speedier conclusions.

Building a Team

A common mistake in hiring the right person is vernacular: data analysts and data scientists are different. Broadcasters must be clear about what is needed. A scientist can focus on organizing data but may not be able to translate that to business needs and opportunities. The opposite could also be true: an analyst may not be able to organize the data as expertly as a scientist. One participating company explained that "it's better to plug in (analyst) to the data warehouse rather than build it (scientist)." Another company built and maintains its first-party database internally.

Additionally, there are many vendors ready to provide organizational, data warehouse solutions and many broadcast companies already have those relationships in place. While some broadcasters have expressed frustrations with vendors who cannot provide analysis, often those vendors are ill-equipped to adequately understand their client's inner workings and strategic goals. As one broadcaster said, "a restaurant's chef isn't asking the produce vendor how the tomato sauce should be made."

One of the biggest challenges in data organization is siloing. Different data resides in different places and is often not connected. While different parts of a business may each have warehouses for their specific data needs, to conduct a comprehensive analysis requires access to many, or potentially all, currently unconnected pools of data. As a result, while many companies have justified the hiring of a data analyst or data team, where that function sits inside the organization is important, specifically to work through siloed data. Again, a top-down, enterprise approach can help remove ownership concerns around data access. One organization, for example, placed its data practice inside an innovation team, with the CEO communicating that any and all data initiatives were to flow through it. Another was about to hire a lead data analyst reporting into its chief content officer, while another had their data practice centered within its advertising operations team. While these different approaches may indicate who within any company is driving the internal conversations around data, the message was clear from all participating broadcasters that executive leadership must be vocal supporters regardless of reporting lines.

Showing Impact

In most cases, initial benefit and risk assessments led to a simple conclusion: the sooner an organization could begin taking action towards building a first-party data practice, the sooner it could leverage that data for revenue and audience initiatives while also best positioning itself in hopes of offsetting any eventual downsides of the third-party cookie deprecation.

With that conclusion in place, a detailed, cross-functional plan with timelines, required resources (staff, technology, etc.), budget implications and strategic goals must be formulated. This is no small undertaking and leadership's continued prioritization here is critical to ensure consensus and full participation. While many broadcasters envision a centralized data analyst team servicing all business functions, the timeline, goals and size of the organization may ultimately determine how large a team is required.

Many broadcast companies have tried, some repeatedly, to stand up a data practice in the past. Many of those efforts failed: goals not clearly defined, tasking an unfocused internal resource (secondary priority), hiring the wrong skillset (scientist vs analyst), technical limitations (internal or vendor related) or the inability to measure outcomes are just a handful cited reasons. Any one problem can and will exacerbate the others. As one broadcaster said, "with so much data to organize and analyze, the risk of 'garbage in, garbage out' costing time and money is painfully high."

Even if the correct pieces are in place, measuring outcomes can seem daunting. Many vendors, partners and platforms offer dashboards, but none offer a complete picture of a company's entire data ecosystem (SSP, DSP, SSAI, social, web and video engagement, etc.). While a handful of broadcasters are now focused on the ambitious goal of building dashboards incorporating all enterprise level data, many companies have built visual interfaces unifying only the relevant data points important to specific business lines (programmatic and indirect sales, for example). It goes without saying that the ability to test hypotheses, whether revenue or audience related, and measure the outcomes is paramount. Remember, results may show the need to pivot or fine-tune efforts, which is just as valuable as an outright success.

A common concern during assessment and testing phases, specifically with revenue related efforts, is the question of scale. Even with the most effective collection tactics in place, it is difficult to imagine how a broadcaster can amass enough first-party data to compare with the vast data pools currently leveraged through third-party efforts. While many believe first-party data will become more valuable to marketers in the future, it's easy to see how comparisons to current third-party efforts might come up short today. But the unknown is what new, privacy-compliant identifiers will emerge in the third-party cookie-less future, and how marketers will then assess how to best allocate spending. Marketers will always have budgets and they will always use available targeting resources to reach the correct audiences. If those resources shift over time, marketers will adapt. As one broadcaster said, "the budget pie may not change, but the size of the slices might." As a result, you need to gather as much first-party data as possible to be best positioned for when that future arrives. If that collection effort is not already under way, then it should be prioritized immediately.

Case Study: Organizational Approach

When it came to data practices and strategies, The E.W. Scripps Company, until recently, was similar to other broadcast ownership groups. While keeping compliant with legal needs, different areas of the business maintained distinct data pools. The company has always maintained strong efforts around traditional digital data sets, including CRM, ad manager, web stats and more. But unfortunately, these were siloed from their ad tech platforms. Because of that separation, dashboards, while available internally and via partners and platforms, were unable to deliver complete views of data across the Scripps digital ecosystem. While the effort to create comprehensive custom reporting has been under way for several years, it is now accelerating at an enterprise level as silos are eliminated and the connections between platforms are made. But beyond reporting and dashboards, despite actively collecting audience data there was no cohesive, prioritized strategy on ways to activate it.

What changed was a top-down approach and the hiring of a key executive with a purview over a data-focused strategy. Joe Naylor joined as vice president of Emerging Products in 2021 and was charged with driving innovation and moving digital products from text to visual. Not surprisingly, data-informed decision-making is driving that innovation, with first-party data front and center.

To lead the effort, Naylor turned to Matt Booher. Booher, a self-described data nerd, joined the company in 2015 as director of Digital Insights, working closely with Tom Sly, vice president of Enterprise Strategy and Shawn Farrington, now senior director of Advertising Technology. Tom stood up Scripps' original programmatic monetization engine, which Booher looked to optimize by building, through data, audience personas to inform better user experiences and content. It was a difficult process, primarily due to siloed data. Booher was elevated in March 2022 to senior director of Audience Data Platforms, organized under Naylor, to build and implement a roadmap for, among other initiatives, leveraging the growth of first-party data.

Next, came an important internal data summit in May 2022, initiated by Scripps President and CEO Adam Symson, who previously had been the chief digital officer. Everyone who touched data was brought together to review all the practices under way. When discussions eventually turned to cookie loss, leadership asked for first-party data. This was more than simply posing a question. Even though internal discussions about first-party data had been happening for years, this now sent the message to everyone that data initiatives needed to be aligned.

Booher's promotion, the new organizational structure and the summit outcome signaled to the entire company the importance of data moving forward as an enterprise strategy, rather than a divisional one. This focus was further validated with the June launch of NAB's Consumer Audience Engagement Accelerator on first-party data and privacy, of which Sly, Booher and Farrington participated on behalf of Scripps.

An added benefit of this new structure for Booher is having broader exposure to and a better understanding of many parts of the business, along with any inherent challenges. His empowered role allows him to suggest ways to inject new thinking into traditional formulas, especially at a time where connected TV is bringing digital and linear closer together. For example, he says digital and broadcast engineering resources are partnering at all levels, from corporate to local, to exploit new opportunities.

Booher describes his goals as finding the "right configuration which will enable revenue (efforts) to

deliver on future-proof products…sustained through upcoming privacy and regulatory changes." While that may seem a daunting challenge, Booher and the team are realistic about the hard work required: there is no silver bullet or an expectation of immediate ROI.

"The work is not easy and takes persistence," Sly says. He adds that the threat of revenue loss, even with Google's postponement of Chrome's cookie deprecation, along with the need to improve audience experiences, is increasing the urgency of internal discussions about data at all levels. In offering advice to others, Sly says, "The best way to overcome pockets of resistance from those set in their ways or worried about budget is by offering training on ways to use data and showing examples of how it brings ROI/value for internal constituents and external clients. For Scripps, the decision to create a centralized data strategy and practice and a dedicated role in the organization to develop and implement the first-party data strategy is providing the quickest path to success. It is imperative this is championed by the CEO."

LEVERAGING DATA

Leveraging data for any purpose requires time. A recurring theme for broadcasters working with their own first-party data is understanding the time that has passed — or time that needs to pass — in order to accumulate enough data to reach some measure of scale to be valuable. Once that threshold for scale is achieved, the opportunity can begin to leverage data to provide enhanced user experiences for consumers and advertisers.

Programmatic

The seemingly most logical place for a broadcaster to leverage first-party data is through programmatic advertising. Programmatic advertising leverages software for automatic advertising transactions using various sources of user traffic patterns and data from various sources. The third-party cookie being deprecated by Chrome and having already disappeared from Safari and Firefox creates a large hole to fill from lost programmatic advertising. The first answer to this challenge is to use first-party data. However, there are unique challenges in doing that.

It is a technological challenge. The broader advertising industry appears to be behind in moving to and working with first-party data provided by broadcasters. A concise and easy method for passing first-party data and ad calls to the various delivery systems is lacking. Progress is being made in this regard, but not quickly enough for broadcasters who have data ready to feed into these systems. Many broadcasters currently find this to be a laborious, multi-day process to export data from their Customer Data Platforms (CDPs) and into the ad delivery platforms. Additionally, once a data transfer has occurred, it is not available for immediate use. As the time from when the data is collected or updated to when it is used to inform delivery passes by, the data can become stale and less valuable.

This is also a scale challenge. In the world of programmatic advertising, consumer data is shared from multiple sources and the total dataset available for each ad call is larger. Even the largest broadcasters do not have enough first-party data to replace all third-party data used by programmatic systems. Additional scale can be achieved by complementing first-party data with some. While the rates are higher for this higher quality data, the amount of data available remains low.

This technical challenge will eventually be remedied, and the programmatic rates should be higher for first and second party data. Broadcasters should continue planning and working toward using their own data for programmatic. One broadcaster has seen success by currently enriching and combining third-party data with their own first-party data. This has led to an even richer first-party dataset that will be available when third-party data is unavailable.

National Sales

If a broadcaster's national sales team is armed with first-party data, they may find that the national buyer is not ready to act on that data. The data is valuable, but in reality, first-party data does not yet appear to be widely available to the buyers from all content providers. In essence, there is a lack of scale in first-party data from the broadcast supply side. Buyers sometimes must choose against buying first-party data because there is not enough data available to meet the advertisers' demand for the complete buy. Having to slice advertising strategies up introduces friction in the buying process. Because only a smaller percentage of publishers have made first-party data solutions

available to national advertisers, national advertisers are not able to transact on first-party data on direct buys. Additionally, the extremely large pools of third-party data and associated complex yet efficient systems to support its value exchange have made it even more difficult for national buyers to justify focused efforts on first-party exploitation.

Local Direct Sales

Broadcasters are finding ways to leverage first-party data in a multitude of ways with varying levels of success. Much of the work and strategy for first-party data and its impact on revenue is focused on local direct sales. Broadcasters have the most influence over the local environment from the local sales teams to the local advertisers to the local content being generated. Additionally, for local direct sales using a broadcaster's assets, there is no arbiter taking a fraction of the sales; the revenue generated remains with the broadcaster.

With first-party data, broadcast sales teams are armed with the ability to effectively target audience segments. For most sales teams, this is the first time they have been given the ability to target in this manner, and account executives are eager to add this kind of targeting to their sales strategy mix. The broader the audience segment, the easier it is to target depending on the amount of data available. Demographic data is, obviously, highly valuable. Sales teams also understand that buyer intent brings a higher rate, but with a much smaller base because there is limited data to pull from. The amount of data, or what is consistently referred to as scale, remains a challenge. Training on these types of sales is paramount. The danger in highly targeting an audience is to slice up the data into such small pools that the opportunity to deliver on an advertiser's expectations is not met. Sales executives must have a clear understanding of the overall inventory available and, more importantly when targeting, the inventory available within a selected audience. Sales teams should not target too narrowly.

Directly targeting consumers assumes the buyer has a specific target or segment in mind for the campaign, but what if that segment doesn't exist? One way that has shown some success is explicitly asking for information about the consumer in specific areas. For example, users visiting content on home improvement are presented with a small survey related to home improvement. That user can then be specifically targeted with home improvement campaigns across the site. That specific, direct targeting leads to higher conversion rates (+20% over ROS, in one example) and demands a higher rate for the value being presented to the advertiser. Explicit signals like a survey about home improvement are more difficult to obtain (and more valuable) than the implicit signal of reading a home improvement article. The challenge can remain, however, on how big that targeted segment is for a standard CPM based campaign. Even if campaigns are sold via sponsorships, sales teams should still understand the CPM value of targeted campaigns delivered.

Broadcasters should educate sales teams on first-party data even if the ability to utilize that data doesn't exist within the organization. This includes having a foundational understanding of first-, second- and third-party data, the challenges and opportunities of each, and strategies for best using data.

Extended Reach Products

Broadcasters with extended networks and multiple products have an advantage in increasing the available inventory for targeting audiences. Simply put, an extended network allows the advertisers to target more people across multiple sites or products because these sites and products are still

owned and operated by the same publisher. The extended reach products are typically simple – display ads or pre-roll video – but the larger audiences create additional opportunities for targeted advertising. The bundling of a local site with other sites and products in the same network can create exciting opportunities for local sellers. Sales executives can sell a specific, targeted audience and can bundle that audience on the local site with the extended reach on other products.

In the absence of their extended reach products, there is the opportunity for broadcasters to work with others using second-party data. That is using a trusted partner's first-party data if the consumer consented to sharing it. Where collaborations can be created for this type of partnership and where an ID is available to match consumers across the data, there is the opportunity to grow the audience segments.

Indirect Audience Targeting

First-party data extends past demographics and consumer-intent. Broadcasters capturing information about user behavior on their sites have data that creates additional ways to target across content and sites. For example, a heavy sports section or sports story visitor could be targeted across any sections or even across extended networks because that user is being defined as a sports fan.

Case Study: Sponsorships and Share of Voice in Spokane, Washington

What happens in a market like Spokane, Wash., when scale in advertising impressions is a challenge even without first-party data? For one Spokane station, the digital sales team has found success through sponsorships and share of voice across the different site sections. Advertisers broadly targeted consumers based simply on content affinity. However, sponsorships and share of voice sales do not translate to first-party data targeted audiences because the advertiser is targeting broadly to all consumers. Impression-based sales products are quite different than share of voice or section sponsorships. The limitation is hit when the inventory is sold out. Once a section of a site or app is sold, it's removed from the inventory. When the weather section was sold to an advertiser, all other advertisers looking at the weather section were out of luck. First-party data is still valuable when used differently. For this station, selling first-party data solutions was complementary to the sponsorship. With first-party data, consumers who visited a sponsored site section could also be targeted by those advertisers elsewhere. Using behavioral or action-based first-party data, the station targeted consumers who visited the weather section on other pages of the site. Additional advertisers who could not sponsor the entire weather section were able to target those same weather consumers in other sections. Through first-party data, that same weather-interested audience was available to additional advertisers outside of weather. The advertisers on the station's site were able to re-target weather consumers.

Personalization

Effective personalization of local websites based on user-defined preferences has been attempted for years with some success. With first-party data, personalization can be achieved for a positive user experience. Entire pages and consumer experiences can be served up to match the users' interests, demographics, behaviors, patterns or a combination of these traits. For example, for a user who frequents a weather and a golf section, a site can create a specific golf forecast that is matched to the user's location. For a user who frequents parenting pages or local family events, a site can serve up education reports based on age and location.

A unique "popular stories" block that matches the user's interest, location and browsing history while not displaying stories that have already been visited by the consumer can follow that consumer from page to page. Using simple behavioral data, a site's page can stop showing a news story that has already been read and present a different story thereby increasing the potential for a longer visit. This can also be effective for visitors returning to a site but driven there only to read one story, often the pattern of traffic from social media platforms. If, on that story, consumers are dynamically presented with content options tailored specifically for them then perhaps they will continue to another page. As one program participant explained, "the revenue implications are enormous if I could get my audience to generate one extra page view per visit."

First-party data that implies a user is interested in a specific sports team provides the opportunity to remind that user of the upcoming game and where that game could be seen, heard or attended with links for each platform.

Brand Loyalty

With data about users, broadcasters can provide services and engagement that can easily increase brand loyalty and strengthen the relationship between the user and the broadcaster. One simple, yet effective, example is using a consumer's birthday to wish them a happy birthday either on the site or via email or some other digital platform. Taking it a step further, the message can be delivered by

station's on-air personalities for a closer connection.

A radio station turned interaction with a contest for concert tickets into a content feed for that user based on the music genre and the artist which included stories, upcoming events and, of course, music. By taking the registration data into consideration, the station could serve up content related to the user's interest.

Beyond direct content correlations, stations are also having success matching consumers with context and not always specific content. One station's contest participants could win a prize but were not only linked directly to that prize. Rather, the participants were tagged as being interested in other contests or similar prizes. Knowing that, the station was able to create and promote other contests to those users for further engagement. Leveraging behavior for intent can be as powerful as specific content.

Stations have also created stronger engagement by creating content that not only informs the consumer but also the station which can then, in turn, provide a better experience. For example, a story explaining voting instructions and polling information can be used to identify someone who will be voting. By pairing that behavior with someone's demographic data like their location, the station can then present relevant stories and even election results specific to that consumers voting district rather than the visitor having to dig through the site.

Newsroom Engagement

Through analysis of first-party data, broadcasters can leverage consumer data and behavior for the benefit of the newsroom. Obviously, examining a site's most visited pages can indicate stories of high interest. However, complementing top story data with information about the site's most loyal audiences provides additional insight specific to the community. One station's data system gathers popular stories among specific local audiences and sends those stories to the newsroom via internal messaging systems where the newsroom can use it as additional information when looking for stories of local interest. Over time, user patterns can uncover potential human interest stories. These patterns can also be used to surface existing products to present to users or even create new ones. For example, one station leveraged the stories produced by its powerful investigative unit to provide related content to consumers. The station was able to build profiles of readers and viewers frequenting the investigative stories and then used that data to create opportunities for consumers to subscribe to an investigative newsletter.

COLLECTING DATA

Collecting first-party data requires employing a variety of tactics to engage users and encourage them to voluntarily provide information – either explicitly or implicitly – that enables the broadcaster to better understand each particular user. Explicit first-party data (also sometimes called zero-party data) comes from information the user directly supplies, such as when setting up an account or responding to a survey. Implicit first-party data comes from information the broadcaster learns while the user is engaging with their own services, such as what content is consumed, which features are used more frequently, how often a user returns to the website or how they arrived. Implicit and explicit data together form a profile of a user that can be used to improve user experience and increase the value to advertisers.

Explicit First-Party Data

Many broadcasters already implement strategies to engage with users directly that afford the opportunity to collect first-party data. The same strategies that radio broadcasters use to build listener loyalty (for example, contests and request lines) can be sources of first-party data. Another common source of explicit data is newsletter signups, where users opt to provide email addresses along with some information about their interests in order to receive relevant content in their inboxes. Additionally, broadcasters often include polls alongside content, which can be as fun for users as it is informative to broadcasters.

In addition to these self-rewarding opportunities to collect information, broadcasters can also collect explicit information in other ways. For example, some broadcasters have explored requiring users to disable ad-blockers to access their websites. While there are online publishers which require users to log in to unlock substantial portions of their websites, most broadcasters generally do not place content behind a paywall or hard login barrier. Those choosing to enable login at all often offer some additional features to logged in users, while most content remains free to all visitors.

Implicit First-Party Data

Typically, only a small minority of a site's users will provide explicit first-party data, so implicit data is a very important part of the first-party data story. Broadcasters vary in how they collect and maintain information about a user's interaction with their services.

Software packages can help offer insight into users via implicit signals. Visiting certain articles or sections on a website can reveal the interests of a user. For example, a user reading about weather-related school closings likely has school-aged children. Or a user reading a story about reasons to move to an area may reveal that they are considering a move or even a home purchase. This can be validated against other implicit or explicit signals and ultimately yield a valuable insight about the user that can be used to increase both the value to advertisers and provide a better experience to the user.

Combining implicit data with explicit data – for example, using an implicit signal to trigger a survey – can be beneficial in two ways. First, response rates to a survey may be improved by targeting users that have already implicitly revealed their likely interest. Second, the characteristics of those who have answered the survey can be used to validate the usefulness of the implicit signal.

Software

The software stack required to collect and leverage user data can be a challenge to build. The capabilities needed include:

- Consent management
- Storage
- Enrichment
- BI analysis
- Sales segmentation

A variety of products exist on the market that provide overlapping subsets of the needed functions. Consent management platforms (CMPs), customer data platforms (CDPs) and data management platforms (DMPs) each perform some of these functions. Throughout this program, broadcasters shared their experiences in building out a technology stack that covers all the necessary functions. There is no one-size-fits-all solution to this. The tools a broadcaster already uses to manage content, analyze activity and sell advertising may impact their choices.

Case Study: Driving Logged-In Activity

One radio broadcaster, which already had a powerful listener engagement program and a sign-on option across all of their stations, devoted a significant effort to targeting subgroups of listeners to increase engagement and sign-ins. While website visitors can listen online without logging in, the broadcaster wanted to increase the proportion of users logged in.

They had three objectives targeting three specific subgroups of listeners:

- Retain frequent-heavy listeners (those who log in and listen longer than average users)
- Bring back lapsed frequent-heavy listeners
- Drive new registrations

Frequent-heavy users were mailed gift cards and invited to participate in a secret contest with a valuable reward. Lapsed users were sent a survey asking why they no longer listen, were invited to participate in a secret contest and were given the opportunity to earn a $5 gift card for coming back and listening for at least an hour. New registrations received handwritten thank you notes and an email introducing new users to the station. Additionally, all logged in users who listened for a specific amount of time were entered into contests to win rewards.

Due to these strategies, now roughly half of all connections are from signed-in users.

Other Experiments

Several broadcasters in the cohort attempted to increase engagement with surveys and found a significant uptick in engagement with some simple strategies.

1. One question surveys: in general, users are vastly more likely to respond to a simple one-question survey than a lengthier survey.
2. Targeting based on explicit 1PD: using information learned from a one question survey to improve targeting led to a much higher click-through rate than implicit first-party data, third-party data or untargeted data.
3. Color scheme: in one broadcaster's experiment, presenting the same survey in darker palette rather than lighter one yielded a significantly higher clickthrough rate.

The results of these experiments, particularly the third experiment, do not necessarily light a foolproof path to increased engagement. Rather, it underscores the importance of A/B testing and continuing to test and validate strategies. There were a number of counterintuitive results encountered by broadcasters in the course of this test. For example, one broadcaster found that targeting based on implicit first-party data yielded a lower clickthrough rate than not targeting at all. This is likely attributable to drawing incorrect assumptions from the implicit data.

ADDITIONAL CONSIDERATIONS

Privacy Laws and Regulations

As of the end 2022, five states have enacted privacy legislation related to online advertising and the collection and use of user data – California, Colorado, Connecticut, Utah and Virginia. These five state laws are similar but not identical to each other. In general, California is considered to be the most strict, however, compliance with California's provisions alone will not necessary ensure compliance in all five states.

At the federal level, bipartisan legislation called the American Data Privacy Protection Act was introduced in 2022, but not passed by the end of the session of Congress. The bill as drafted would have preempted stated regulations and put into place requirements related to data minimization and restrict the use of user data for advertising purposes. A similar bill is likely to be introduced in 2023. In addition, in August the Federal Trade Commission (FTC) released an Advanced Notice of Proposed Rulemaking broadly inquiring about "commercial surveillance," that is, the practice of collecting, analyzing and profiting from information about people. The FTC is likely to issue new, more limited-scope notices to address more targeted concerns in 2023. The fate of federal privacy legislation and/or regulation is uncertain and could have significant impact on the collection and use of data by any company or organization, including broadcasters.

APPENDIX: BROADCASTER HYPOTHESIS REPORTS

Beasley Media Group

Beasley Media Group was proud to be a part of the PILOT program looking at the impact of first party data on the broadcast industry.

At the time this program was launched, Beasley Media Group was researching and vetting the possibility of adding a Consumer Data Platform to our Martech stack. At the time, the main strategy on collecting and activating first party data was centered around consumers engaging with our online contesting and email platform, Second Street. To that end, we chose a hypothesis that centered on available actions within that platform.

BMG Hypothesis

By having stations focus on using 1PD (audience content preferences) to create a minimum of three target audiences with Second Street per month through the end of the year and sending out content rich emails on that specific topic, pageviews from email newsletters will increase.

We were measuring pageviews from email year-over-year during the same time periods to identify any increases.

While our hypothesis didn't change, the project brought to light education and workflow issues at the local station level.

Preparation

We asked 50 of our local radio stations to commit crafting/sending a minimum of three targeted emails each month in September, October, November and December in addition to the once per month whole database email send. Each email was to contain a minimum of three editorial content pieces that related to the segmentation theme. Targeting and segmentation was based on tags within the Second Street platform. These tags were manually applied at the promotion and email creation stage. Segmentation options range from age or geolocation to music and artist preference. As stated before, email marketing was also run through the Second Street platform.

Station promotion directors were charged with executing this at the local level. The market digital program directors were the backups on this project.

Execution and Testing

Our team did encounter some complications during the initial phase of the test. The two largest being:

- Many of the targeted emails created by local teams did not contain the minimum required editorial content counts.
- We also uncovered that several of the local stations lacked actionable data to create sizable segments for targeted outside of age and geolocation. The action step here is to develop an accountability strategy to assure the promotions and email links are tagged correctly moving forward.

- At the end of October, 16 of the 50 stations tasked with participating in the program did not meet the minimum requirements set for in the hypothesis.

Outcomes and Results

To our surprise, as of November, we are seeing a year over year (YOY) decrease in pageviews. In digging into the number of email sends, several factors could have attributed to this result:

- Large number of stations not meeting the minimum targeted send counts and/or editorial content counts.
- More whole database sends in 2021 vs 2022.
- Lack of segmentation data at station level for affect targeting.

Here are YOY stats from a few markets for October:

Las Vegas Station

	October 2021	**October 2022**
Percentage page view decrease Oct. 21 to Oct. 22		-16%
Email Sends	3 whole DB emails	1 whole DB email and 2 targeted emails

Tampa Station

	October 2021	**October 2022**
Percentage page view increase Oct. 21 to Oct. 22		33%
Email Sends	1 whole DB email	7 targeted emails

New Jersey Station

	October 2021	**October 2022**
Percentage page view increase Oct. 21 to Oct. 22		32%
Email Sends	3 targeted emails	2 whole DB emails and 3 targeted emails

Detroit Station

	October 2021	**October 2022**
Percentage page view decrease Oct. 21 to Oct. 22		-54%
Email Sends	2 whole DB emails	1 whole DB email and 4 targeted emails

One very impressive finding was the dramatic increase in open rates YOY for September-November:

Email Open Rate Sept-Nov 2021 **23.71%**
Email Open Rate Sept-Nov 2022 **42.71%**

Finally, one of the biggest takeaways from this test was the need for additional education and training for our Programming and Promotion teams at the station level on the importance of first party data as it relates to our industry and business. That includes:

- Understanding what data is actionable for specific station audience, content consumption and revenue growth goals.
- How to efficiently gather it using the platforms and tools currently available.
- How to harness first party data to improve user experience on all platforms via personalization.
- How to use first-party data in the planning process for content and event creation.

E.W. Scripps

Hypothesis

Scripps chose its hypothesis to better understand the revenue implications of pending changes to the third-party data ecosystem and the growing regulatory obligations of publishers and advertisers under consideration by state legislators. By evaluating the efficiency and effectiveness of first-party audience campaigns relative to third-party audience campaigns across common metrics, the hypothesis became:

Advertiser's targeted campaigns using Scripps first-party data perform better or at least on par with advertiser-provided third-party on at least one or more key performance metrics or attribution scenario.

Preparation

Scripps approached the hypothesis with a traditional test-and-control methodology mindset. A control campaign was selected based on four factors: (1) campaigns running in industry segments that frequently advertise with Scripps; (2) "Goldilocks" campaigns where targeting was not too narrow or too wide for the scope to be repeatable in other campaigns; (3) the test campaign could run in a market with sufficient inventory relative to the control campaign; (4) the market selected had history of supporting corporate initiatives and advocating for innovative ideas.

Scripps simultaneously reviewed technical vendors and potential markets. Once the Detroit market was selected for the test, work began on selecting a Customer Data Platform to facilitate the collection of the necessary first-party data. After review, Scripps selected Lytics to complete this task due to their willingness to provide a no-cost 45-day trial and the platform's built-in integrations with the vendors Scripps was already using for digital marketing campaigns – Google Analytics (GA 360) and Ad Manager.

Once the overall framework was in place, a series of planning meetings with corporate sales leadership, Detroit station leadership, ad operations, product management, privacy, security and digital development took place to educate stakeholders on the project's objectives and milestones. Scripps deployed Lytics on WXYZ.com in late September 2022.

Execution and Testing

Data collection showed initial promising results. 3.6 million profile records were gathered in the 45 day test period. Scripps settled on two control campaigns (in case one campaign could not reach significant size) targeting either the automotive segment or a sports betting segment. Audiences were developed using Lytics' machine learning affinity-based audience builder. As users visited content on WXYZ.com, Lytics assigned topical affinities to user profiles. Lytics then assigned those user profiles to audiences:

Campaign Segment	Audience Name	Content Affinities (users visiting pages with these topics)	Audience Size
Automotive	Lytics Auto Intenders	North American Auto Show, Automobiles, American Automobile Association, Vehicles	221K
Sports Betting	Detroit Sport Fans	Detroit Lions, Detroit Tigers, Detroit Red Wings, Detroit Pistons, Ford Field, Little Caesars Arena	397K
All Users	All Audience	All Content	3.6MM

The first challenge involved the technical integration of Lytics with GA360 and Ad Manager. Lytics audiences needed to first pass through GA360 so appropriate ID matching between the Google tools and Lytics could be established. The documentation from both Lytics and Google was out of date, preventing the tools from sharing data. Persistence and well-time technical support resolved the issue. With the audience data integration completed, Ad Manager next needed time to build available inventory estimates based on the frequency of the first-party-defined audiences visiting WXYZ.com. This burned another 2-3 weeks out of the trial window.

Available inventory estimates turned out to be much smaller than initially expected. For example, of the 221,000 Automotive audience profiles collected in Lytics, only 9,000 of those profiles were addressable in Ad Manager, totaling 324,000 impression opportunities. The team learned audience profiles needed to be resolved to an individual user and/or devices ID with many initial profiles being redundant. Those individual IDs could then only be addressable in environments or on platforms supporting ad targeting. Users on Safari, iOS, reduced the count an additional 55%. Finally, users needed to be matched across the Lytics platform, Google Analytics and Ad Manager. Privacy settings, ad blocking and other technical barriers reduced the total number down to 9,000 matched profiles.

221K audience profiles	~56K actual users	24K non-Safari/iOS users	9K matched profiles in Ad Manager

Outcomes and Results

The focus on revenue and campaign performance outcomes shifted toward identifying the appropriate operational considerations needed to better understand how first-party data can be collected at scale and passed along to the appropriate systems for use in advertising campaigns. As the operational challenges were being worked out, the time remaining to conduct a test and control experiment with enough impressions and data points for a statistically significant result proved difficult. Key learnings and advice for other broadcasters would be:

- **Consider the time and volume needed to build an audience with critical mass and appeal in the marketplace.** 221,000 user profiles yielded 324,000 monthly impression opportunities.
- **If possible, dedicate a full-time resource.** The cross-departmental, and potential cross-divisional, collaboration needed to achieve buy-in across the company cannot be underestimated in larger organizations or smaller ones. Education will need to happen. Trust will need to be built. Producing specific examples of first-party data collected within the context of our products helps drive excitement and understanding. Do not forget about security and consent at each step of the process.
- **Think long-term.** The initial impression volume, while not enough to justify a statistically

significant hypothesis test, demonstrated the economic viability of first-party data. The impression volume built during this project represents less than 1% off the inventory in Detroit in a single month. Increasing this amount to 10% of the available inventory and either selling at a slight increase in premium or eliminating third-party data costs represents a six-figure opportunity in a single market or a seven-figure opportunity across the Scripps market footprint.

Graham Media Group

Hypothesis

The deprecation of third-party cookies is a tremendous opportunity to reassert our value with advertisers to access targeted audiences through our first-party data (1PD). Though we may not have the scale to reach as many targeted audiences that advertisers buy through third-party audiences, the quality of our data is likely better. Our audiences are highly engaged and more likely to transact. If proven out, that would provide a powerful incentive for advertisers to shift ad dollars to campaigns leveraging our 1PD. As such, we hypothesize that campaigns targeting GMG's 1PD can produce at least a 20% higher click-through rate than those targeting third-party audiences.

Preparation

To start, we identified two existing run-of-site campaigns that would be good targets to try to boost with audience targeting. Both campaigns were home improvement related: one for a flooring company, the other for a plumbing and HVAC company.

Our goal was to create two different 1PD home improvement audiences to test. First, we wanted an Implicit Audience using signals from activities on site (e.g., reading articles about real estate or mentioning home improvement keywords in comments, etc.). The second is an Explicit Audience where we directly ask our users if they are planning any home improvement projects in the next year. The implicit audience can be built immediately through our existing data in our Customer Data Platform (CDP), BlueConic, where we have collected user behavior data for over a year. Conversely, the explicit data will be harder to collect but should also be a much stronger signal and induce higher conversion rates.

To help build out an appropriate Implicit 1PD Audience, we engaged our Audience Development Lead to identify content tags and other signals in our CDP around home owning and home improvement that might be a good indicator of interest in home improvement services. In addition, our commenting platform, Viafoura, had recently rolled out IAB Categorization and Concept Grouping of users based on their article consumption and comment activity. Altogether, we were able to put together an Implicit Segment of 250,000 users in the target market who might be interested in home improvement services, 35,000 of them who were highly engaged and likely to return to the site soon.

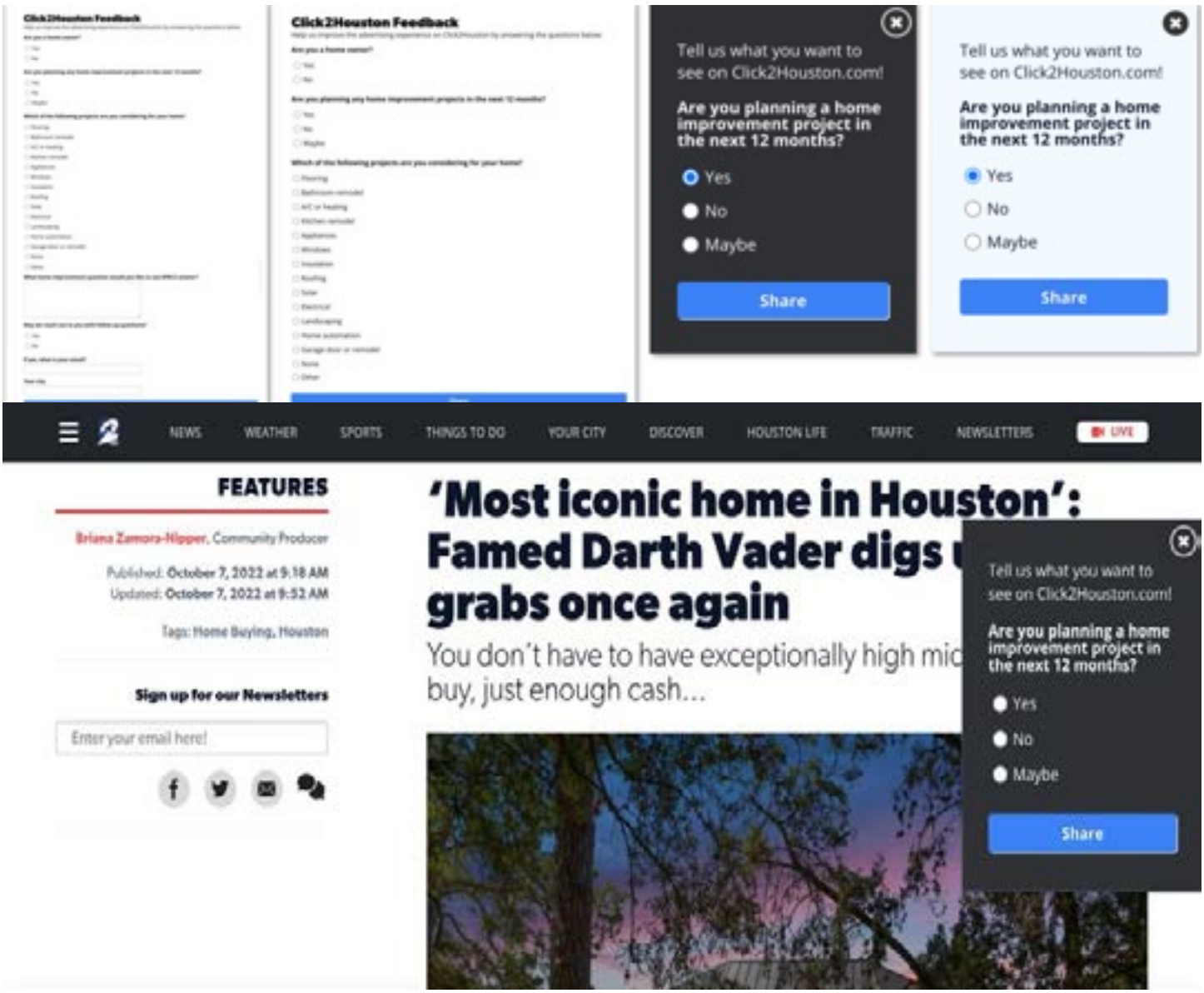
To solicit direct input from users on their home improvement interests, we used BlueConic to draft a few versions of a survey and the responses to which should have been automatically added to their CDP profiles and available for segmentation. The different variants would then be on our site as an A/B test to see which option was most effective. The first option was a long survey, asking:

1. If they are a homeowner
2. If they are planning on any home improvement projects in the next 12 months
3. What types of projects they are considering
4. A free-text feedback form asking what home improvement content they would like to see
5. May we contact them for follow up
6. Their email address
7. Their city

The second option was a shorter survey, with just questions 1-3. The third and fourth Toaster options were asking question 2 (the most important question), but with different backgrounds for contrast.

The Toaster options had more prominent placement, so we thought we should try a couple of different styling options to see if it had any significant effect on conversion rate for users submitting responses.

Dialogues and variants	Distribution	Views	Uniq. views	Views/uniq. views ratio	Clicks	Clicks/views ratio	Dlr. conv.	Uniq. tot. conv./uniq. views ratio
[KPRC] - 1PD - Home Improvement Survey								
Original Full Survey	0.35%	234k	80.3k	291.45%	555	0.24%	547	0.68%
Shorter Survey	0.88%	69.9k	43.4k	161.11%	270	0.39%	270	0.62%
Toaster - Dark	63.19%	1.11M	452k	245.95%	12.1k	1.09%	12.1k	2.64%



We targeted the survey just to users who were in the Implicit group already, and ostensibly more likely to be home improvement intenders, or users who met a high engagement threshold and thus likely to come back in the next month when we ran our ad campaign test. After three weeks, we were able to collect more than 21,000 responses, with the Toaster variants having conversion/unique view rates higher than 2%.

It is interesting that there was a substantial difference in the conversion rates of the two Toaster options, given they are the same except for color. We believe this speaks to the need to try anything and test everything.

Of the 21,000 responses, more than 7,000 said they were planning home improvement projects in the next year. We created a segment in BlueConic of the Explicit Home Improvement Intenders with the intention of sending those users to Ad Manager as a custom audience to use in our targeting campaign. After six weeks of running the survey to a tiny portion of our total audience, we collected over 11,000 Explicit Home Improvement Intenders, enough to conduct our ad targeting test.

Execution and Testing

After curating our audiences in BlueConic, our next step was to export those audiences into Ad Manager so they could be used for testing lift in ad campaigns. Initially, we tried to use BlueConic's export to Google Analytics Audiences, which then could be exported to Ad Manager through the Google Analytics interface. Unfortunately, that process was losing a lot of users by the time it made it to Ad Manager, and the resulting audience was too small to run a campaign against. We then pivoted to using the Publisher Provided ID (PPID) as the key for batch-uploading our audiences to Ad Manager. There is a bit of a lag in the batch upload process, but within a couple of days we had most of our Implicit Segment audience and nearly all our Explicit Segment Audience available in Ad Manager to target campaigns against.

To run our test, we took each advertiser's existing run-of-site untargeted display ad campaign line and added three copies with the same creatives. To one of those copies we then added targeting using our 1PD Explicit Intenders audience (users who told us they are planning home improvement projects) and another copy similarly for our 1PD Implicit Intenders audience (users consuming home buying or home improvement content). In the last copy, we applied a third-party audience segment of home improvement intenders to compare the effectiveness of our 1PD audiences vs a 3PD audience. All targeted lines were capped to 75,000 impressions, while the original untargeted lines each had more than 250,000 impressions.

Outcomes and Results

We found that our 1PD Explicit audience generated a 29% lift in clickthrough rate (CTR) vs. the untargeted run-of-site lines and a 20% increase vs the 3PD audience lines. We think this is a very compelling argument that 1PD can be even more effective than the 3PD targeting advertisers have been relying on. The aggregated results from the two advertisers are given in the table below.

Segment	CTR	CTR % Diff from Untargeted	CTR % Diff from 3PD
Untargeted	0.10%		
3PD	0.11%	7%	
1PD Explicit	0.13%	29%	20%
1PD Implicit	0.05%	-48%	-60%

However, our Implicit audience performed abysmally, worse than both 3PD targeting and even untargeted. We think this is an artifact of targeting the wrong signals, home buying being a poor proxy for home improvement interest with a small number of impressions more than anything else. We still believe we can use the plethora of behavioral data already available in our CDP to build Implicit audiences that can be as effective as 3PD targeting. Our next iterations of this project will focus on curating content specifically around the target audience (e.g., a "Home Improvement Tips" section), the traffic to which we can take as a much stronger signal of interest in the purchase category.

We were incredibly surprised at how willing our users were to share survey responses with us, especially without any obvious incentive (prize drawings, etc.). For our next steps, we plan to do many more short surveys in a customer lifecycle flow to build out these Explicit Audiences for several categories. For example, once you answer about your home improvement intent, a little while later, we might ask if you plan to buy a car soon. With these Explicit Audiences as data points, we might be able to use them as training data for look-alike modeling. These models can then be used to build better Implicit Audiences based on their similarities to users who have explicitly signaled their interests.

Gray Television

Gray Television began with the hypothesis: Using machine learning tools to prompt users to sign up for newsletters, enter contests, complete surveys, and provide information in various ways will help us gather new, clean data.

As we worked through the process of researching and integrating a machine learning solution, we realized that this would not work for our use case. To properly train the machine learning algorithm, we would need to implement a hard wall requiring users to provide data before accessing content, a user base beyond 1-2 stations, site logins, and implementation time longer than what was available for this test. Since these requirements did not align with our overall business goals, we adjusted our hypothesis to: Using CDP tools to prompt users to sign up for newsletters and provide information will help us gather new, clean data.

To implement a test, we worked with Lytics (CDP Platform) over the course of a trial period. Lytics provided a JavaScript tag that was placed on a single website using Google Tag Manager. With the tag in place Lytics gathered data for one week. Data included time on site, referral, number of pages visited, frequency of visits, etc. Using this data, a group of audiences were created, and a popup prompt was delivered to audiences we believed would be likely to respond asking them to sign up for a daily newsletter and provide their email address.

Early into the test we discovered that signups were increasing, over our previous passive signup form, but not at the rate we had anticipated. We had some uncertainty on what the expected lift should be, so our expectations could have been skewed. We determined the lower lift was likely due to the relatively small number of users reached through our initial audience selection. To reach more overall users, we modified the audience that would receive the popup. As expected, we saw an increase in email addresses.

While we proved that by using CDP tools would help gather new data, it was not at the level that we would have initially expected. To make this strategy worthwhile it would need to be expanded in both scale and audience reached finding a balance between user experience and data collection.

As we move forward, we will continue to gather data through these methods while making adjustments to our audiences and integrating our first party data and privacy strategies.

Hubbard Radio

Background
Hubbard Radio has a robust of history of collecting important user information across our catalog of digital products including websites, live players and mobile apps. We have 8+ years history of listening sessions and time spent associated with user accounts. These user accounts all have an email address tied to them. Some accounts have further contact information like notification opt-in, phone numbers and even mailing addresses.

Thanks to this history we are in a great position to take this data and utilize it in ways to better our stations. Our hypothesis is one that focuses on the product/consumption side of our business.

Hypothesis
We believe we can leverage our first-party data to increase listening occasions and time spent listening

Preparation
Hubbard activated long-time marketing partner, DMR to help us analyze our listening history and help us identify opportunities. We exported and analyzed the most recent 3.5 years of listening data, 14 individual quarters.

Findings
Not all registered listeners are created equal. Some stream heavily and often, some stream heavily and not often. Some stream lightly often, other stream lightly and not often.
There are significant amounts of audience churn. A listener who is a heavy streamer in one quarter may or may not be a heavy streamer in the following quarter.
There are opportunities for us to engage with our registered streaming audience by segmenting them and executing strategies focused on their past listening behaviors.

Execution
Hubbard identified four pilot stations to take part in creating strategies aimed at our identified opportunities. We leaned on our marketing and programming station leaders to not only develop the strategies but follow through with the execution and keep track of results.

Results and Takeaways
At the time of this report, not all executed strategies have reached completion. The following are those that have finished. This work will be ongoing for us.

Secret Contest for Lapsed Heavy Streamers (STATION A)
Station ran a “secret contest” targeted only at a select group of 325 individuals who were identified as being previous heavy streamers but had dropped off in the most recent quarter. 106 responded and took action (33%). Listeners were contacted via email. Contest ran from September 13-30, 2022

Results: The contest delivered 104% increase in streaming minutes by the targeted group. Compare with a 32% decrease in the 2 weeks prior (September 1-12) without the targeted contest.

	AUG 1-12, 2022	SEP 1-12, 2022	DIFFERENCE	% OF CHANGE
106 LAPSED (MINUTES)	15,423	10,480	4,943	-32%

SECRET CONTEST (SEP 13 – 30)

	AUG 13-31, 2022	SEP 13-30, 2022	DIFFERENCE	% OF CHANGE
106 LAPSED (MINUTES)	17,905	36,548	18,643	104%

Our Takeaway: There are definitely opportunities to re-engage listeners who once were heavy listeners. Although, our time may be best spent engaging current heavy streamers to reduce churn before it begins. Further tests will be tried in this area.

Secret Contest for Lapsed and Current Heavy Streamers (STATION B)

Station ran a "secret contest" targeted at a mixed group of 889 individuals who were identified as current or former heavy streamers. Listeners were contacted via email. Contest ran from September 13-30, 2022.

Results: The contest delivered 13% increase in overall listening from the previous month. The largest percent increase (94%) came from the lapsed heavy streamers but, the largest increase in minutes consumed came from the current heavy streamers group.

		AUG 2022	SEP 2022	DIFFERENCE	% OF CHANGE
TOTAL REGISTERED STREAMERS A25-54	HOURS	28,268	31,924	**3,656**	**13%**

TARGET 889: 434 CURRENT HEAVY & 455 LAPSED HEAVY RECEIVED CONTEST INVITATIONS.
445 TOTAL RESPONDENTS

		AUG 2022	SEP 2022	DIFFERENCE	% OF CHANGE
445 TOTAL RESPONDENTS	HOURS	23,624	26,928	**3,304**	**14%**
CURRENT HEAVY 341	HOURS	23,053	25,821	**2,768**	**12%**
LAPSED HEAVY 1104	HOURS	571	1,107	**536**	**94%**

90% OF THE TOTAL MINUTE INCREASES STREAMED IN SEP 2022 (219,264) CAME FROM THOSE INCENTIVIZED WITH THE SECRET CONTEST

76% FROM THE CURRENT HEAVY LISTENERS

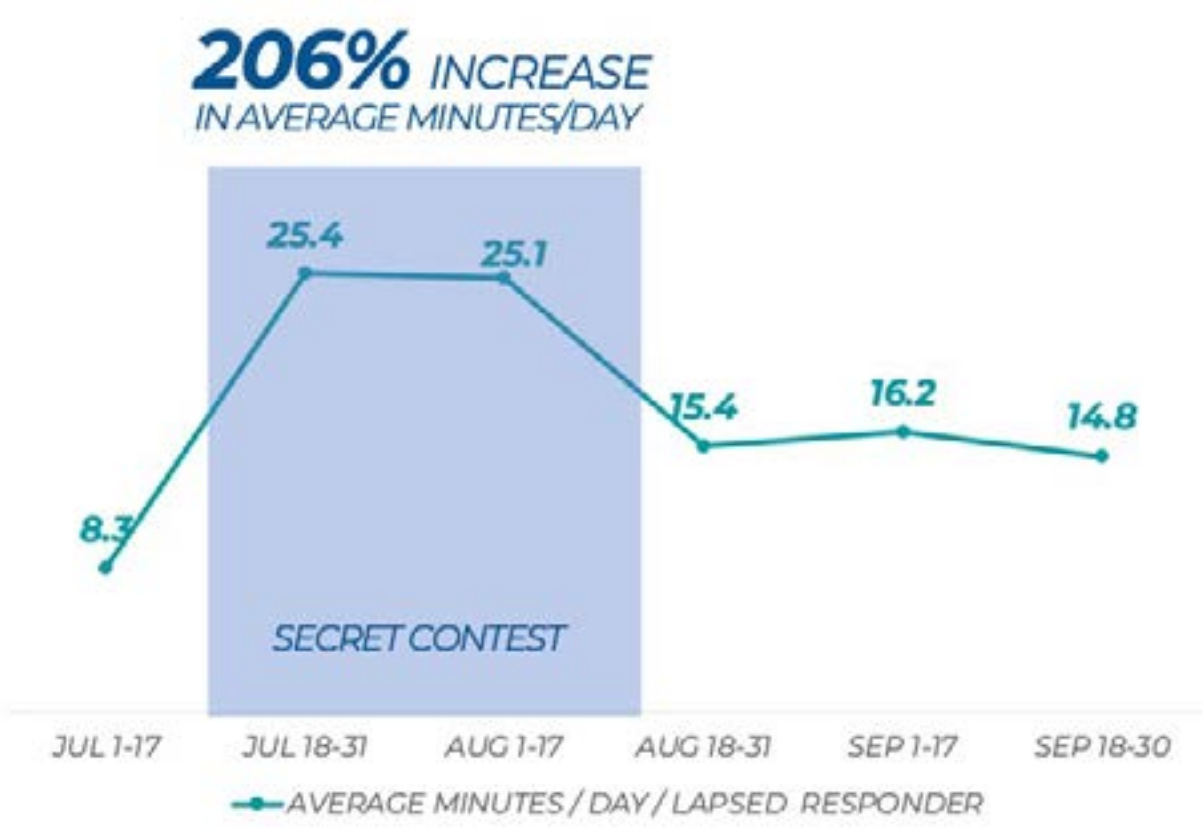
24% FROM THE LAPSED HEAVY LISTENERS

Our Takeaway: 90% of the total minutes streaming increase by registered users came from those incentivized with the secret contest. Again, we see opportunities in both re-engaging lapsed heavy streamers and engaging current heavy streamers. Focusing on the heavy listeners either current or former is the easiest way to move the needle on driving more listening.

Secret Contest for Lapsed Heavy Streamers (STATION C)

Station ran a "secret contest" targeted only at a select group of 772 individuals who were identified as being previous heavy streamers but had dropped off in the most recent quarter. Listeners were contacted via email. Contest ran from July 18-August 18, 2022

Results: Of the 722 lapsed listeners that were invited, 254 responded (35%). The below shows the difference in listening for those 254 respondents before, during and after the contest.



Our Takeaway: The listening lift during the contest is very encouraging, but also somewhat expected. We think our biggest win is the lift of listening of this group once the contest was over. We see this as a good sign that with repeated attempts to do these sorts of contests aimed at lapsed heavy streamers we could see significant changes in our total listening over time.

Other Strategies

Our stations tried several other strategies to engage valuable registered streamers. Not all are easy to report results on as they were not as measurable. Those were things like giveaways, experience invites and personal messages to groups of listeners.

Conclusion

Radio programmers have long used Nielsen tools like PD advantage to try to figure out how to get more P1's to listen, this database helps us identify who is listening, when, and how often.

Through these preliminary tests, Hubbard has identified that there is great value in knowing who our best listeners are, and who our best listeners were (lapsed). We have a huge opportunity to nurture relationships with those listeners to keep them engaged with our stations. We intend to continue executing different strategies and testing and measuring what gets results. We expect that with repeated attempts we will see significant lift in listening in the long-term.

As so many radio programmers have used Nielsen tools like PD advantage to try to figure out how to get more P1's to listen, this database helps us identify who is listening, when, and how often.

Morgan Murphy Media

Hypothesis

Our hypothesis states that if we organize first-party data segments, we can create a meaningful revenue model for our business. We set out to test this hypothesis by aggregating existing data and using it to personalize the user experience. Our revenue model includes a combination of data and relationship management solutions coupled with advertising technology.

We began by auditing the total number of first-party data points we have collected through online forms, contesting, VIP clubs, subscriptions and more. We focused on email address as the primary addressability factor and noted opportunities to expand on key demographic data, including age, gender, postal code, household income, education and behavioral affinity categories.
We also aimed to measure the uplift in programmatic onsite revenue from addressable audiences, examining the decoration rate of our inventory, or bid requests with an addressability signal compared to total bid requests.

Choosing this hypothesis allowed us to further evaluate the size, quality and value of legacy data collected over the last two decades. While we have had ongoing data collection goals, we had not yet organized data in a manner that allows us to meaningfully activate across sales, content and marketing. We aimed to realize the value of the data we have and how to effectively use it to serve our audiences and customers. This has allowed us to strategically expand our data set and prioritize collection of the most effective data points.

While our initial hypothesis has not changed throughout this project, some of the tactics we are deploying have evolved. We have prioritized tactics that require low development lift and fewer sales resources, with plans to strategically expand efforts more fully in the next 12 months based on initial data findings.

Preparation

In preparation for the project, we began by auditing first-party data across our television, radio and print entities, using email as the baseline data point for addressability.

We then vetted technology solutions including customer data platforms, visitor relationship management platforms, and identity solutions in ad technology to draft a model of our first-party data stack. We prioritized data solutions with focus on revenue-driven actions. Solutions were assessed by the corporate digital team, representing sales, news and operations.

While we have technology solutions in place for data collection, consent management and sales segmentation, we focused our efforts on identifying storage and enrichment solutions that would complement our existing product mix.

Execution and Testing

Since launching this project, we have integrated several data enrichment solutions including Shared ID, Panorama ID by Lotame, and are in the process of onboarding a VRM to recoup revenue from ad blockers and build upon existing addressable data to curate custom, interest-based experiences for our audiences.

Throughout this process, implementation has been slow at times because technology solutions are complex and codependent. And cross-device tracking is still difficult without a single sign-on solution in place. However, we have prioritized vendor solutions that are multi-faceted to reduce vendor expense and complexity within our data stack.

We are deploying our first-party data strategy in stages to get a baseline of data before moving into more complex integrations, with the ongoing goal of building more direct one-to-one relationships with our users.

We have deployed the ability to pass secure signals, working with our email service provider to provide SHA256 hashed email. This, coupled with solutions from Amazon Audience Publishers, Admiral, Shared ID and Panorama ID have increased the amount of secure, tokenized data we can monetize.

Outcomes and Results

Through participation in this program, we evolved from having a lack of a coherent data strategy to having a measured approach to collection and exploration. It has also provided a valuable foothold to prioritize this business strategy and justify investments with top leaders in our company.

There is no single replacement for third-party cookies. We have concluded that we will need to deploy a two-prong approach to first-party data, implementing both universal ID solutions and curating unique user experiences via declared data that we have collected through contests, polls, VIP clubs and other initiatives.

This mix of first-party data solutions allows us to customize user experiences and pass more anonymous data signals to increase bid density and ad value. We sought to achieve this without reliance on a full-blown customer data platform. In our analysis, a full-blown investment into a CDP is unlikely to produce the return on investment for a company of our size at this time.
Instead, publisher-provided signals, first-party cookies and other anonymized identifiers will drive improved visitor experience and marketing opportunities. And to solve for scalability, we will align our efforts with other broadcasters via NewsPass ID and similar opportunities.

To date, we have been able to achieve up to 80% decoration rate on our inventory. We will build upon this as our anonymized data collection efforts continue.

We will also break down data silos and enhance our seller-defined audiences, while consistently providing value back to the user. This data-driven approach will allow us to efficiently segment users to deliver relevant experiences. And plans will be assessed and executed by a newly appointed, cross-functional data advocacy team.

Throughout this process, it is imperative that we respect direct relationships with our audiences and deploy solutions with customer data security and privacy at top-of-mind.

Salem Media Group

Salem Media Group happily participated in the NAB Pilot program. We entered the program with knowledge of the pending cookie-apocalypse and no clear plan to compensate for the change. Prior to joining the pilot group, given the niches we serve, Salem had deep history of data and email acquisition. While the previous statement is true, Salem is still lacking a cohesive data strategy. We believe, given our distribution platforms from over the air to over the top, Salem has an opportunity to leverage our in-niche scale to build a strong first party data set delivering a better user experience.

Hypothesis

State your hypothesis:

- Could we attain more first-party data lowering the friction to engage vs. requiring more listener information to engage?

What are you measuring?

- We tested our ability to use different engagement tools and promotions to see what helped to grow specific data segments from both new and existing first-party members testing different engagement paths.

Why did you choose this hypothesis?

- We know that collecting and activating data can lead to a better user experience and increased monetization.

Did your hypotheses change, and if so, why?

- Beginning the pilot program, we knew more of what we wanted to do vs. set goals to move beyond the conceptual stage. As we moved the ball forward, our path became clear and we focused our efforts towards what processes would yield better results.

Preparation

What steps did you take?

- We determined that our data collection focus would be on increasing email addresses, birthdate and gender data points.
- We met with the Audience Engagement team and reviewed the targets.
- The Audience Engagement team prepared a multi-tactic plan utilizing our portfolio of owned and operated audience.

Who was involved in designing and preparing to execute?

- Central to this effort were our Audience Engagement team and digital content managers. We solicited the support of our local promotion director and marketing coordinators where they existed.

What technology was involved?

- We utilized our station web (including websites and Display network) and social media channels. We utilized our email service provider. We utilized mobile app pushes. We leveraged our radio assets and digital stream.

Which vendors played a part?

- Audience.io, PostUp, Google, SOCi

Execution and Testing

What were the complications or challenges during the test? How did you navigate through the challenges?

- We found it challenging to find consistency in execution when not a top-down effort. Accordingly, early into the project, we directed our Audience Engagement team to manage the execution across all markets.
- We have diverse data points inside the company and our different business units use different technology to execute similar tasks.

Did you need to modify or alter any of your planned steps?

- We had to reduce the number of tactics used because of resource limitations due to increased business fulfillment requirements.

Outcomes and Results

When we began this effort and joined the NAB pilot:

- We had over one million members in our email database and set a growth goal of 10%.
  - » We missed our overall growth target and grew by 6%.
- We knew the gender for 39% of our database and set a growth goal of 25%.
  - » We exceeded our growth targets and grew by 71%.
  - » Key to exceeding our target was a strategy including data appendage.
- We knew the birthdate for 43% of our database and set a growth goal of 25%.
- We missed our growth targets and grew by 19%.
  - » Future promotions will provide opportunities to test the effect of increasing incentives for providing birthdates.

What did you learn? What should other broadcasters take away from your experience?

- To be successful, this effort needs to be top down and company-wide.
- We as broadcasters have the opportunity to leverage our platform to better educate the audience on the benefits and value of data sharing.
- A coordinated cadence of email, mobile push notifications and social posts helped drive increases in response and the percentage of new members.
- As a takeaway from our participation, we made the decision to budget a full-time role and began a search for the Head of Digital Audience Growth for the Broadcast Division.

Conclusion

Our testing did not prove that the yield would increases by reducing the friction to engage vs. using incentivization. While these findings defy logic, we believe the unique relationship between Salem and our audience affords more trust when compared that to the general media.

TEGNA

Hypothesis

TEGNA had three hypotheses:

1. First-party data showed an opportunity to convert a casual audience and/or grow a loyal audience and revenue around content A.
2. By putting a strategic focus on content A, stations can grow their YoY KPIs for that content area by percentage B and revenue by percentage C.
3. Identify users that would have a propensity to sign up for newsletters/text subscriptions of content A because they have previously viewed content B.

Our metrics for success are:

- Repeat visitors for a test station as measured by Google Analytics, our content platform of record.
- Total visitors for the test station as measured by Google Analytics.
- Newsletter subscribers for our fact-checking vertical.
- Profiles for the test station in our CDP, 1plusX.

We chose our hypotheses in part because there are tactics we could use to quickly and easily to grow our metrics for success.

- Our CDP already tracks and relays data on repeat visitors.
- Our test station's website CMS already has functionality and processes for recirculation linking.
- The request to the test station staff is not labor intensive and is to simply use a different dataset (repeat visitor data) in their decisioning of which stories to use in existing recirculation tools. The second request was to use data identifying popular stories amongst repeat visitors to help inform editorial planning.
- By identifying opportunities to better promote stories already popular with repeat visitors, we believe we can drive other users to those stories and create more repeat visitors, which has a much larger lifetime value.
- In addition, our fact-checking content brand, Verify, already promotes newsletter signups in its content. We simply asked that editorial staff to begin using data from repeat visitors to inform its choices about where to place a newsletter signup widget. By placing the widget in content areas that are more popular with repeat visitors, we expect an increase in newsletter signups.

Preparation

- Corporate audience leaders were trained to use our CDP.
- Our manager of data engineering worked to determine how CDP data could be exported and shared.
- Our manager of data engineering and senior manager of project management for Google Analytics worked to ensure that data reported in our CDP reflected data reported in Google Analytics.
- Our senior manager of project management for Google Analytics created Google Data Studio dashboards to be shared with our test station and fact-checking vertical teams.
- Our vice president of digital content reviewed and approved test station participation.
- Our support team created an embeddable newsletter signup widget
- Digital directors at the test station and at our fact-checking team were involved in discussions about how best to act on and share the data.

- Google Data Studio dashboards were shared with producers with our test station and fact-checking team.
- Weekly meetings were scheduled between corporate audience leadership and the digital director at our test station to review progress.

Execution and Testing

The challenges we identified included:

- Data cannot easily be exported from our CDP in a format that is actionable by content producers. Development using the API is required and will only be completed once the pilot is successful.
- CDP data by itself doesn't provide unique value. It is duplicative of data already available in the two other measurement tools used by our content teams – Google Analytics and Taboola Newsroom. However, the CDP does assist in identifying the repeat visitors and content categories to focus on. The CDP will also be the primary platform for data and execution when the process is automated.
- Metrics that update live for stories by return visitors are not available in any of our metrics platform. That makes is more difficult for our producers to make content decisions in the moment.
- TEGNA stations share a significant amount of content – including content produced by our Central Content Team – and shared content tends to be most popular with one-and-done social visitors. That makes it ripe for optimization for return visitors. However, those stories can only be edited by the station that produced the story. The station that pulled the story cannot add its own links.
- Using automation to link content popular with loyal audiences to other content can create ethical challenges. For example, there may be some concerns about adding links to crime coverage to crime stories; we don't necessarily want to encourage users to read nothing but crime stories.
- Digital teams have limited bandwidth.

How the challenges were addressed

- Recognized that the CDP provides value in that it can start a discussion about how to easily optimize for return visitors by presenting data upfront in digestible ways.
- Confirmed that data reported in our CDP aligned with data reported in Google Analytics; that means that traffic increases based on recommendations from Google Analytics data should be reflected in the number of profiles created in our CDP.
- Identified an existing process that could be easily improved using data on return visitors — adding related links to stories.
- Worked with our insights team to create Google Data Studio dashboards with stories by return visitors that update at least hourly; dashboards were shared with the test station as well as TEGNA's Central Content Team and fact-checking team.
- Identified an additional source of return visitor data our test station already could access — Taboola Newsroom.

Outcomes and Results

Our tests began on December 1, and we expect them to continue through January. If the results are positive, we will develop strategies and plans to produce automation in data delivery, as well as activation in automatic recirculation link publishing and newsletter sign-up widget placements.

For example, our CMS may be able to use data from our CDP to automatically populate a popular stories widget with links, or automatically add a newsletter signup widget.

Based on our experiences so far, our initial recommendation to other broadcasters would be to focus on education and communication within your digital and editorial teams. Educate everyone in your organizations about third-party cookies, the role cookies play and the impacts to business. The teams should also be aware of the role first-party data plays in both sales and content. It is important for the organization to be aware of current and upcoming privacy legislation and the impacts it has on the relationship with our consumers. Teams should be brainstorming and testing new methods of value-exchange between the consumer, their brand, and their content. Teams should also brainstorm and test ways to collect new attributes on their users at the micro and macro levels.

It's likely broadcasters will find producers who are forward-thinking and enjoy experimenting with new data and platforms and can be champions within your content teams. Work with those producers to ensure the data you're collecting aligns with the data used to measure success for content. Then collaborate with content producers to help them act on the data.

The result should be that your content producers are able to better serve their communities and attract visitors that help you meet your business goals.

WRAL Digital/Capitol Broadcasting Company

Introduction

The WRAL.com Digital team decided to measure its readiness for the switch to first-party cookie data on its flagship site, WRAL.com. The site serves many millions of pages per month and is the market leader in local news.

WRAL's 1PD team consisted of the following people:

- Sir Robert Burbridge – Director of R&D, WRAL Digital
- Laura Worthington – Director of Marketing, WRAL Digital
- Jed Williams – Director of Strategic Growth, WRAL Digital
- Laney Tipton – Director of Operations, WRAL Digital
- Michael Stefani – Analytics and Data Specialist, WRAL Digital
- Eric Openshaw – SEO Specialist, WRAL Digital
- Kenneth Barbour – Software Engineer, WRAL Digital
- Jon Accarrino – Vice President of Transformation, Capitol Broadcasting Company

WRAL's 1PD Hypothesis and Why They Chose It

Headquartered in Raleigh, N.C., a city experiencing significant growth, the WRAL team recognizes the value of "New Movers" to the area. The segment is popular for a range of advertisers – from home builders and developers to home improvement and pest control companies – that want to connect with new potential customers moving into an area.

Hypothesis

The team formulated the hypothesis that: *Using only first-party data, WRAL could (1) add audience members to a new-movers segment with high accuracy, (2) convert these audience members to loyal users, and (3) realize meaningful revenue increases from that segment.*

The process of testing this hypothesis comprised the following steps.

- **Identification.** To determine whether WRAL could identify new-movers to North Carolina using only first-party data.
- **Acquisition.** If so identified, could WRAL convert this target audience to engaged (multiple sessions per month) or loyal (15+ sessions per month) users of their platforms? Building brand loyalty with those newcomers was a critical part of the strategy.
- **Realization.** Finally, could WRAL leverage this data to take action that has a higher ROI than a parallel control campaign that did not use 1PD?

Rationale

But why did they choose this specific hypothesis? "It needed to be simple," Jon Accarrino, vice president of Transformation from WRAL's parent company, Capitol Broadcasting Company, explained. "Ultimately, first-party data is a company-wide mission. From our leadership team to the sales department, we wanted everyone to understand what we were trying to do, who we were targeting and why."

Not only would WRAL's "New Movers" hypothesis test their 1PD tech stack, but also the internal coordination between departments. Sales, content, marketing, and technology were all involved in

the project.

"Designing a first-party data solution isn't just a technical effort. It's an opportunity to optimize how different departments function when it comes to data," added Chris Weatherly, WRAL Digital's vice president and general manager. "A 100% [third-party-]cookie-less Internet will be here before we know it, and we are doing whatever we can to prepare. That includes everything from upgrading our tech stack to changing how everyone in this organization thinks about data and its value."

Unforeseen Challenges and Hypothesis Adjustments

It didn't take long for the WRAL team to encounter some significant challenges while trying to test their 1PD hypothesis.

- **Data Suitability:** Though WRAL had been collecting user data using a CDP (customer data platform) for almost three years, preparing and sanitizing the data for this kind of endeavor proved to be difficult. Challenges stemming from early design decisions in the data strategy ultimately limited the team's ability to utilize the data effectively. Initial assumptions that WRAL already had the tools that they needed were incorrect. In particular, the company's CDP footprint had been tuned considerably for different applications, and the data structures were not conducive to the kinds of efforts needed for this experiment.
- **Incomplete 1PD Tech Stack:** Another major challenge for WRAL was 1PD vendor research and evaluation. Publishers executing a 1PD program will need to evaluate dozens of potential 1PD technology partners. And since all publishers use a different mix of technologies, there's no standard set of 1PD vendor solutions to choose from. Each publisher and their individual technology requirements are unique and require custom configurations.
- **Project Time Requirements:** Anything 1PD related can be very time intensive. In addition to their other responsibilities, the WRAL team needed to dedicate significant amounts of time to the project.
- Low Polling Responses: Using polls to confirm data sets is effective, but not scalable. This required the team to adjust methodology several times to find the best ways to target the audience. After an initial sluggish response rate, Laura Worthington joined the project to improve the marketing tactics and accelerate responses.
- **Unexpected Shape of the User Data Model:** It turned out that the methods of profiling used in the company's CDP were not strongly conducive to the kind of analysis to be undertaken. This resulted in a lengthy process of repeated assessment and modification to create a user model better structured to perform the desired analysis.

Despite these challenges, the WRAL team chose not to modify their hypothesis. Regardless of the outcome, the experience would prove to be a learning experience.

Preparation

In preparation for the experiment, the team needed to collect direct audience responses to determine a population of self-identifying "New Movers." The method selected for this was the creation of targeted content and audience survey mechanisms to draw likely relevant audience members and elicit direct responses.

Audience Survey

The marketing team, led by Laura Worthington, created evergreen content on WRAL.com designed

to rank well in searches presumed likely for New Movers. Eric Openshaw, WRAL's SEO specialist, created the content and optimized it for the desired search results.

Jon Accarrino and Michael Stefani designed and developed the poll. It was developed in a colloquial style intended to put audience members at ease with the idea of sharing information. Deployment of the poll to the website was managed through BlueConic, the company's CDP.

The collected data was expected to be intrinsically and unquantifiably biased due to the collection technique. The team set an initial target of a minimum of 300 New Mover responses to ensure sufficient data quality to model a classifier well. From domain experience, it was supposed that up to approximately 15% of respondents would self-classify as New Movers. This led to an initial estimate of needing a minimum of approximately 1,000 - 2,000 responses.

Data Preparation

The CDP provides a set of tools for analysis of data, including an integrated Jupyter "notebook" tool. Because of some of the ways data has been stored, the team instead selected to export the data to AWS S3 for pre-processing before performing the main analysis in scikit-learn.

The team's software engineer, Kenneth Barbour, extracted the relevant audience data to AWS while Sir Robert prepared the data using a variety of machine-learning tools (see section Preparation, Data Preparation and Modeling).

Execution and Testing

The methodology involved the following steps:

- Acquire New Mover classification data from a portion of the audience using a direct survey.
- Train classification models against a portion of survey results.
- Classify the test data according to generated models.
- Measure the classification accuracy.

Survey Design and Deployment

Design and deployment of the survey was led by Michael Stefani, Jon Accarrino, and Laura Worthington.

New Movers Lead Magnets

One of the lead magnets created to attract New Movers was an article listing reasons why families might want to move to North Carolina.

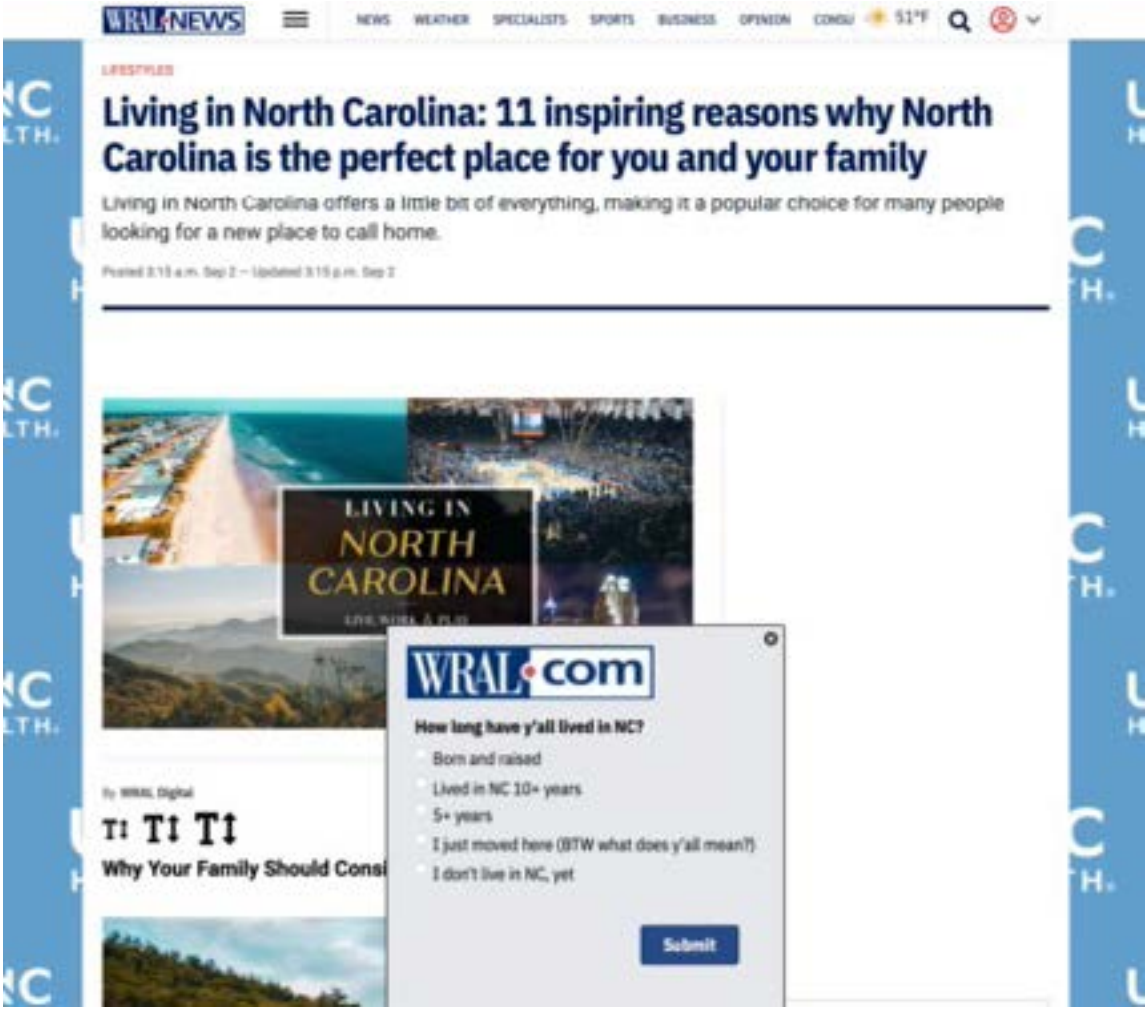


Figure 1: *Example of custom content on wral.com created to attract New Movers*

"After a detailed analysis, we strategically optimized around a short list of valuable key word phrases," Openshaw explained. The phrases that the team selected centered around topics like education, healthcare, economy, entertainment and outdoor recreation.

"I moved to North Carolina less than a year ago," Accarrino revealed. "As a new mover to the region myself, I was able to recall what topics my family researched before we relocated. Even if the search volume was low for some of these "New Movers" keyword phrases, this traffic is extremely qualified and valuable."

"New Movers" Confirmation Polls

Assumptions and campaign targeting aside, the WRAL team still needed a way to get final confirmation directly from users that they were indeed New Movers. To verify if, and when, a user had recently moved to North Carolina, confirmation polls were added to relevant pages on WRAL.com.

Created in a casual voice, the polls asked users questions like, "How long have y'all lived in NC?" Audience members who responded "I just moved here" were classified as New Movers.

"At first, we didn't see a lot of poll responses when it was just on the single evergreen story," added Laura Worthington, WRAL Digital's director of Marketing. "We tried to create a segment using BlueConic and target those on our site that are not from the area, pushing them to the evergreen story. Ad Ops informed us that the ads weren't running because the segment wasn't big enough, so instead of spending more time trying to figure out why that wasn't working properly, I decided to just identify some additional on-site locations that would be relevant to the target audience."

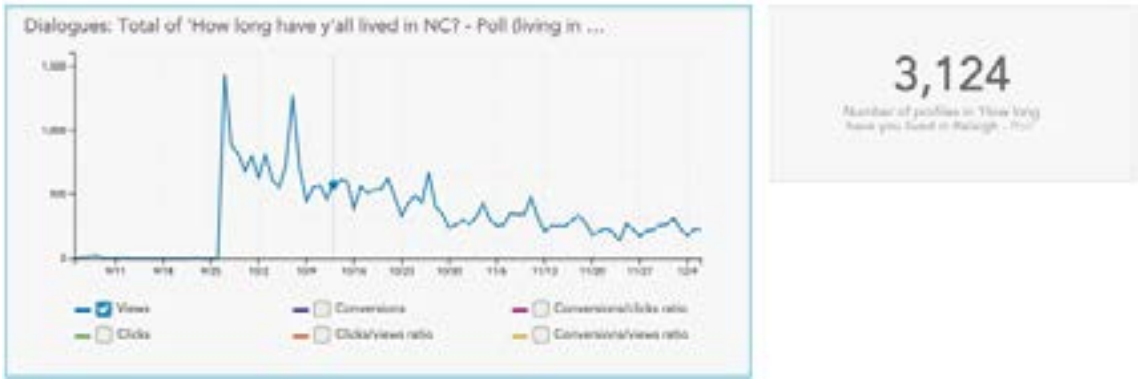


Figure 4: *Results from WRAL's "New Movers" poll*

"Once we added the poll to other relevant pages and sections, we quickly reached our analysis goals," Worthington continued. "A story that was trending with homepage placement gave us a quick bump in responses. But ultimately, placement on our Out & About section front yielded the most results."

Figure 2: *A change in strategy helped increase poll results.*

As described above, the initial response to the survey was sluggish, receiving only 21 responses in the first week. This was an insufficient amount of data from which to build a model. Over the subsequent weeks the marketing team implemented several strategies to increase that number significantly. This included using a promoted Outbrain campaign as a control group. The paid campaign using Outbrain generated 105,201 impressions and 3,638 clicks to the evergreen story.

Ultimately, the poll returned approximately 3,100 responses total, with 191 respondents (6%) self-identifying as New Movers; approximately two-thirds of the anticipated 300, but above the estimated bare minimum of 100.

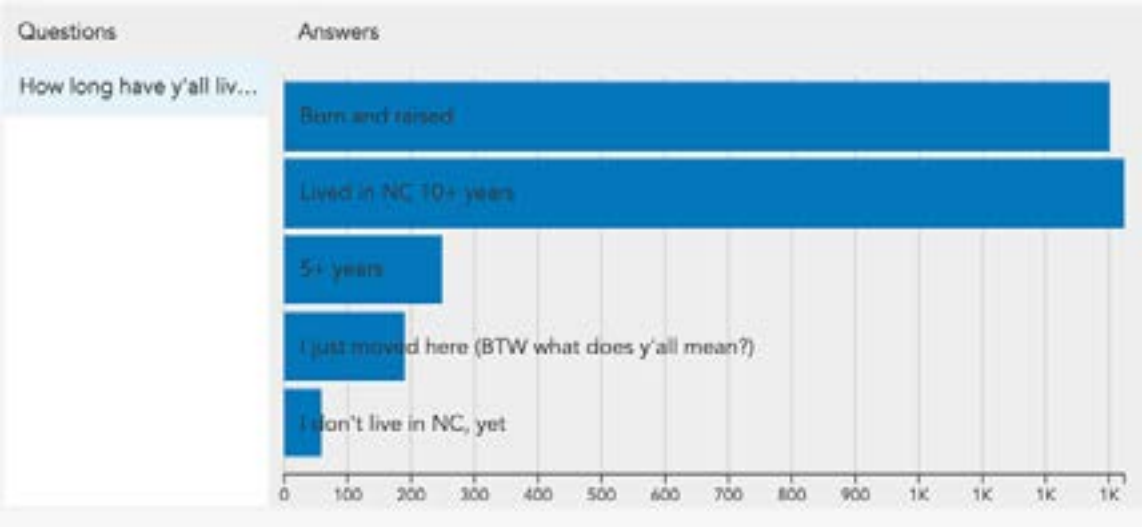


Figure 1: *Chart showing poll results from BlueConic*

Data Preparation

In tandem with the survey deployment, the R&D team set about defining procedures for sanitizing profile data. This was not a trivial undertaking. The team was met with a number of significant challenges in the course of data preparation that took much longer than expected. This was a source of major delays for the project.

Data Irregularities and Sanitization

While preparing the data, the WRAL team determined that there were some issues with data irregularities that needed to be addressed. Over the course of several years, changes to their process and technologies resulted in blocks of sparsely populated or invalid data in disused elements of the user data model. This data had to be sanitized prior to analysis.

The figures below depict a gloss of the states of the data before and after this process. The beige color indicates missing values, red indicates numerical values, and text fields are shown in black.

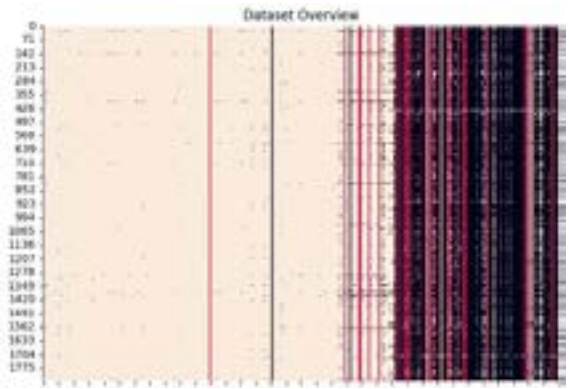


Figure 7: *Depiction of availability and types in raw data*

Figure 8: *Improved data quality*

This step resulted in significant improvements to data flow and the process of exploration yielded important insights into required maintenance for our CDP data model.

Meaning and Standardization

Another major data challenge involved dealing with abnormally structured data. For example, some fields were stored without metadata indicating their meaning, while others had exceptionally low variance. Issues like these caused a number of fields to be disqualified as candidates for consideration. In the resultant set of data, a total of 122 candidate fields were marked as having sufficient quality to retain in the user data model.

A number of fields stored data in ways that proved difficult to standardize. These included information such as sub-delimited text data. In some such cases, the recorded information referred to data stored in a separate database. For some of that information, it looked feasible to extract value as a part of a significantly longer, more involved project, but the effort fell outside the scope of this project. These have been added to WRAL's roadmap of features to explore in relation to first-party data.

A large amount of the available data is nominal qualitative data. This includes information about, for example, user interests.

In the current audience data model used by WRAL.com, certain information that would be useful to add ordinality to qualitative data is unavailable. For example, during the course of the investigation, it became clear that temporal signals (e.g. timeseries event data) would be useful to order the available data on article engagement.

Modeling

A survey of the data available in the New Movers segment revealed an unexpected paucity of usable signals, mixed with a few strong signals that, with further work, could yield usable results.

Unusable Records

A large number of records contained trivial variations, such as:

- Only two of the New Movers had active subscriptions to WRAL newsletters.
- Only one New Mover used the site's search function.
- New Movers referrers were typical of the general audience.

High Signal

On the other hand, a number of features had significant signal compared with the normal population of users. For example:

- New Movers used mobile devices to access the site at nearly double the rate of the general audience.
- New movers had a significantly higher engagement rate than the general audience.
- A modestly higher proportion of New Users visited evergreen content dealing with area events, as well as content categorized as "Lifestyle" and "Entertainment."
- Only three of the New Movers watched video content despite reading multiple articles.

Unfortunately, the set of signals provided were not sufficient to create a meaningful classification model. The team expects that with additional effort, and renovation of the user data model in the

CPD, these indicators can be used to generate sufficient classification models.

Conclusion

Ultimately, the experiment was a success. While the WRAL team was not able to verify its hypothesis, the team demonstrated successfully a number of weaknesses in its current first-party data strategy, as well as identifying promising avenues for improvement.

Since the conclusion of the experiment, WRAL's team has re-engaged with its CDP, as well as with outside experts to renovate its data strategy. The following list summarizes the key insights and recommendations from the WRAL team coming out of this project.

1. A well-maintained audience-model strategy is essential. It must be well-documented.
2. When designing a data strategy, it is of the utmost importance to begin with the end in mind. Specific data must be designed with utility for analysis in mind first. This means:
   a. When possible, prefer rational, quantitative data.
   b. If the data cannot be represented rationally, prefer ordinal data.
   c. When dealing with qualitative data, understand the importance of nominal data versus, for example, unstructured textual data.
   d. Understand the importance and role of temporal data to, for example, add ordinality to qualitative data.

- Keep experimentation capabilities (such as A-B testing) as a first-order mechanism in any technology stack.

Next Steps For WRAL's 1PD Initiative

Like many web publishers, WRAL has found the slow transition to a cookie-less Internet to be challenging. Not only is a complicated tech stack required, but additional resources need to be dedicated. And like anything else, if no one "owns" a project, then no one will focus on it.

"We started this first-party data project with a lot of unknowns," Accarrino explained. "But the opportunity to be a part of this joint project between Google and the NAB was extremely beneficial. It motivated us to confront this challenge now, instead of dealing with it down the road."

Additionally, ROI from a first-party data initiative will be forthcoming, but likely not immediate. Therefore, publishers may need to make multi-year investments in 1PD that include both human and technical resources.

"First-party data is full of promise and lots of future opportunities for WRAL," confirmed Jed Williams, WRAL Digital's director of Strategic Growth. "We already have plans for how we want to enhance our first-party data tech stack next year and use the technology to create better experiences for both our users and advertisers."

Some of WRAL's immediate action items coming out of this project are to expand their first-party data tech stack and strengthen existing vendor relationships. That includes taking immediate steps to deepen its relationship with BlueConic, beginning with identifying a set of 1PD projects that the two parties can collaborate on.

These include specific initiatives include testing more dynamic and personalized forms of on-site

recirculation, and leveraging learnings from the new-movers pilot to explore capturing additional valuable audience segments for advertisers.

Strategically, the WRAL teams believes that there is an opportunity to create a stickier relationship with a greater percentage of their audiences across platforms. This includes improving loyalty scores and raising their average revenue per user through RPM optimization.
In the future, WRAL hopes to find ways to monetize loyal users better directly through highly targeted content, products and services.

"Ultimately, everything hinges on our ability to build a robust user model," Williams added. "This will enable us to collect the most important data signals, systematically and continuously, about our audiences, and then utilize these signals to create value."

Appendix B: ATSC3 Data

Connecting ATSC3 Viewer Data With Web And App User Data

Another element that was unique to WRAL's project, was their integration of ATSC3 broadcast TV user data. As one of the first U.S. broadcasters to deploy the new NextGen TV standard, WRAL-TV had the unique opportunity to integrate first-party viewer data from broadcast TV users with their web and app users.

The new NextGen TV technology gives broadcast television viewers the ability to watch high-quality 4k TV content without downloading any data from the Internet. Instead, the content is delivered wireless over the broadcast airwaves. But through a digital pass back, basic viewer activity is logged the same way as an app on your smartphone or connected TV device. As a result, WRAL was able to observe IP addresses, viewing times, viewing durations, and the make and model of each TV set.

The addition of this TV viewer data provided a unique challenge for the WRAL Digital team.
Could they associate their NextGen TV data with the existing profiles in their first-party database?
Could multiple devices, including laptops, smartphones and NextGen TV sets be collected into households, a very desirable segment for advertiser? It's a challenge that WRAL's development team had to face as part of this project.

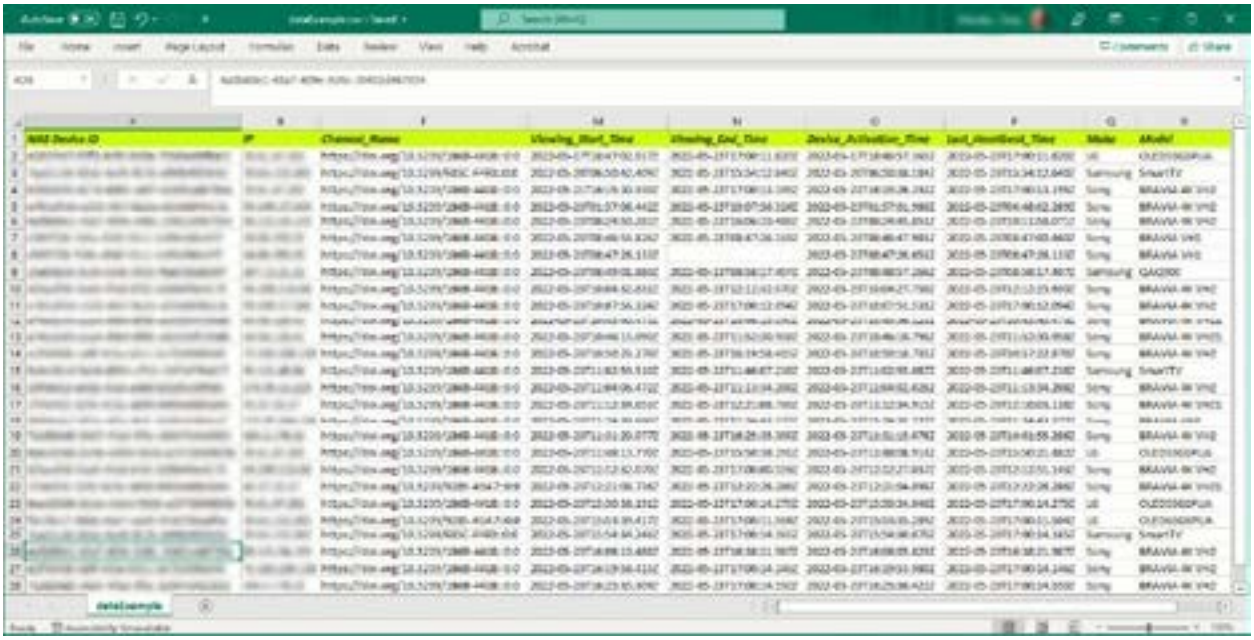


Figure 10: *Example of the data collected by WRAL-TV from their NextGen TV viewers*