



IN PARTNERSHIP WITH THE
614
GROUP

The Future of Programmatic and Automation

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Executive Summary

The 4A's and The 614 Group partnered to conduct research on programmatic advertising and automation today and tomorrow. The primary goal of the research is twofold:

- Redirect the industry conversation around programmatic advertising and automation based on empirical facts, and
- Identify ways to plan for a future that is value-focused for the marketing ecosystem.

The research consisted of three phases:

- A literature review to determine what is known, what is not known, and the development of topics to learn what we need to know—more than 200 studies, articles, and blogs reviewed
- A qualitative study designed to capture the voices, expertise, and opinions of senior executives at advertising agencies, advertisers, publishers, and ad tech companies—47 one-on-one interviews with 60 hours of analyzed transcripts
- A quantitative study to measure and benchmark the learnings in the qualitative study—219 respondents, director-level and up, completed a survey questionnaire in the field between July 18 and September 11, 2019

The literature review revealed that most of the research in the public domain focuses on specific areas that are part of the programmatic marketplace (e.g., DSPs and SSPs). Moreover, there is a dearth of research that seeks to capture a full cross-ecosystem view including agencies, advertisers, publishers, and ad tech. While there are a multitude of individual or company POVs available, there are few bona fide

empirical explorations of the ecosystem.

The key themes that surfaced from the qualitative study are substantiated in the quantitative study. In addition, there is evidence of an emerging cost-value narrative in the industry—a better understanding of the capabilities and value of programmatic infrastructure and automation—which may be related to a shift to a value-for-cost mindset.

Both the qualitative and quantitative studies indicate that the noise around in-housing, the role of the agency, cost transparency, and cost-value relationships are far more sensationalized than the reality based on the research. This does not mean that there are no challenges or issues in the programmatic market. The research examines and measures both challenges and possible solutions.

Data, data, and more data is an overarching finding throughout the research. The qualitative study found that programmatic is more about data than it is about executing media transactions. Another overarching concept is interoperability. Respondents want technology that works seamlessly and products that “talk to each other.” They want data that is of known quality and provenance, and they want to use vast arrays of data and data streams in an integrated manner.

The promise of programmatic is as yet unfulfilled. One of the elements of the unfulfilled promise is that programmatic is not yet fully automated: there are many manual processes in the workflow and a lack of abilities to harness higher levels of automation like AI to deliver the right message to the right person at the right time. The overwhelming majority of respondents (90.4%) chose the following as the definition of marketing and advertising automation that most closely matches their own: “Marketing and advertising automation are more than just the use of technology to eliminate manual tasks—it also includes the use of data-based rules and decisioning

such as algorithms, machine learning, or AI.” The view that “programmatic is the technology infrastructure that will underpin all data-driven marketing in the future” is shared by nearly two thirds of respondents (62.6%).

More than three fourths (76.3%) of respondents disagree with the statement “Programmatic advertising has eliminated nearly all the manual work in buying digital media.” Over two thirds (67.6%) disagree that “programmatic and automation are the same thing.”

Agreement with the statement “The array of inputs needed to reach the right person at the right time with the right message cannot currently be leveraged in programmatic without higher levels of automation” is significantly higher (45.2%) than disagreement (29.2%). Another item, “The highly sophisticated algorithms used in programmatic advertising reliably deliver real-time optimization without human involvement,” garners disagreement by half the respondents (50.2%) and agreement by a significantly smaller proportion (35.2%). These quantitative data points support the qualitative findings that the promise of programmatic is still unfulfilled and that programmatic and automation are not the same thing.

Respondents were asked to rank three benefits of programmatic advertising to their respective businesses today, and the top benefit selected most often (59.4%) is “Ability to leverage data in biddable marketplaces to achieve cost efficient audience targeting.” The second-most frequently cited benefit (27.9%) is “Enables greater impact in a media buy regardless of cost or labor efficiencies.” Embedded in these statements is an as-yet unmeasured construct of cost value. The research was not designed to measure what “cost-efficient means”—is it spending the least amount, as in buying the cheapest car on the lot, or is it getting a good deal on the BMW of your dreams?

From a series of eight items that describe marketplace needs and challenges in programmatic advertising, where respondents were asked to select the two most important to their respective businesses in the next six months to one year, only three were selected by more than 20% of respondents. They are:

- Better integration of data and campaign-tracking technologies to fully empower cam-

paign optimization in real time (44.3%)

- Solutions to provide holistic evaluations of campaigns that run across online and offline media (39.3%)
- Identity resolution across/between walled gardens and publishers (31.5%)

All respondents, regardless of their answers to the question on the two most important needs/challenges to their business in the next year, were asked to select the degree of importance of each of seven benefits of identity resolution. All seven were deemed important by at least half of the respondents (50.2%). The top three in importance selected by a majority of respondents (upwards of two thirds) were:

- Greater accuracy in running and evaluating cross-device campaigns to ensure delivery to the target audiences rather than devices (77.2%)
- True audience reach numbers (74.9%)
- Facilitation of frequency management (68.5%)

Taken together, these three benefits highlight the importance of accurate delivery, measurement, management, and optimization of target audiences for campaigns. This underscores the impact of identity resolution as an overall industry issue that needs solutions. Current concerns around privacy are critical considerations in identity resolution.

The quantitative study measures perceptions of the changing role of the advertising agency in the short term, (the next year) and in the future (the next three years). The qualitative study found that like the rest of the ecosystem, agency roles and responsibilities are rapidly changing. But the need for the centralized leadership role of the agency is not disappearing. It is actually becoming somewhat more necessary. Current agency roles that are critical today include leveraging data, helping to develop a strategic vision for clients, and providing broad expertise to navigate the complexity of today’s marketing landscape.

In response to a question about the functions of the advertising agency in the next two to three years, nearly three quarters (73.1%) of respondents agree with the statement “The creative function will have to use data to go from the linear storytelling

paradigm that dominates today to more dynamic, personalized messaging.” This statement about possible future functions of advertising agencies got the highest level of agreement among five measured statements. This finding is important not only due to the possibility that in the next three years the agency creative function will be a data-infused art that adapts to immediacy in a way that the current linear storytelling paradigm cannot, but also because it enhances our understanding of where data-driven marketing is headed.

The research examined in-housing and found that it is neither all or nothing, nor is it as definitive as the press headlines may indicate. It is happening to varying degrees, and it is altering the client-agency relationship. It is opening the doors to agencies’ growing consultative data and technology assessments and services. There is also recognition that in-housing has its challenges, among them attracting and retaining the right talent (58% of respondents cite this as the biggest challenge) and concerns that in-house talent will not be able to keep up with the latest developments in ad technology (41.1%). Not surprisingly, more than half of the respondents (53.9%) see the main benefit of in-housing to be marketer control over first-party data.

The research also examined the perceived value of investments in talent and technology, as well as in data and measurement. Data scientists (66.2%), fraud prevention, brand safety tools, ad verification, resource growth to advance the tech stack, tech talent including engineering, IT, and Ops (53.9%) are seen as having high value and contributing to business success by one half to two thirds of respondents. The two data and measurement investments that are assigned high value by respondents are first-party data (78.5%) and attribution (71.7%), exceeding high value talent and technology investments.

The qualitative study found that the future of programmatic is automation, and that includes all media, especially TV. The quantitative study discovered that the majority of respondents (62.1%) do not believe that TV networks will move inventory into programmatic markets quickly, and they expect that the largest TV and video companies will ultimately create their own walled gardens (68%). Perhaps more telling is the prevailing notion that “there is a lot of

confusion regarding the difference between addressable TV, OTT, CTV” by more than three quarters of respondents (76.7%).

As previously mentioned, a goal of this research is to identify ways to plan for a future that is value-focused for the marketing ecosystem. Thus, future roles and responsibilities, as well as challenges and benefits of possible solutions, were measured. This leaves us with the question: What is the #1 priority for marketing and advertising automation in the next three years? And the answer is not entirely unequivocal. Respondents selected two of three possible #1 priorities at statistically equal levels:

- A fully automated methodology that flags inventory for purchase based on predetermined audience and ROI criteria—41.1%
- Higher levels of automation such as AI to enable optimized activation across all marketing touchpoints—37.9%
- The effective application of automation to capture and resolve supply chain issues—18.3%
- Other—2.7%

Both items selected are focused on quantifiable better outcomes for advertising and marketing. Both need fuller automation and deployment of machine learning/AI. Both also require an understanding of broad campaign goals. While the first choice is more transactional in nature, it is far from simple, particularly given the current state of data quality coupled with ROI models. Both priorities require effort to improve business models, data quality, talent deployment (especially data scientists), and interoperable data flows.

The Implications and Path Forward sections of this paper put forth some concrete steps to move the market forward with value creation and to continue to generate the best possible outcomes for advertising and marketing.

Background and Introduction

The 4A's partnered with The 614 Group to conduct research that would provide the empirical basis for envisioning the future of programmatic advertising and automation. The choice to explore this very broad and, in many ways, complex topic was driven by a need to get past the noise in the marketplace, and begin creating a roadmap for the future using empirical facts. The ad spend using programmatic infrastructure is significant and growing. EMarketer estimates that by the end of 2019, programmatic advertising spend will be \$59.45 billion annually, nearly half of which is going to digital video. By 2021, programmatic ad spend is forecast to reach \$81 billion.

The primary goals of the research program are to:

- redirect the industry conversation around programmatic advertising and automation based on empirical facts, and
- identify ways to plan for a future that is value-focused for the marketing ecosystem.

With a plethora of research by many parties readily available and a robust trade press that covers many of the issues, The 4A's and The 614 Group sought to capitalize on existing knowledge and opinions. As part of the research design, The 614 Group reviewed more than 200 articles, papers, and columns in order to find out what is known, what is not known, and what appears to be known, and identify what still needs to be known.

The literature review indicated that :

- There is a dearth of empirical research that explores the opinions of all constituents in the marketplace—advertising agencies, marketers, advertising/marketing technology companies, and publishers—in comparable terms. Most available research studies focus on one or two segments alone.
- Existing studies do not explore the meanings and perceptions of programmatic and automation either separately or together.
- Most of the studies examine specific areas that

are part of the programmatic marketplace (for example, SSPs or DSPs).

- There is an abundance of POVs in the programmatic marketplace. Many of the POVs focus on the problems in programmatic advertising, such as too many technology middlemen and insufficient clarity around costs; too much fraud; and brand safety glitches. There is very little fact-based work on possible solutions to these issues.
- There are estimates of the cost of tech relative to actual media purchased that have been used to support the existence of a "tech tax," but almost no research on the value of technology and tech capabilities in the programmatic marketplace.
- Some studies have been published that generated headlines about lack of trust and transparency, thus painting a bleaker picture than evidence would suggest.
- There is quite a bit of noise around in-housing, but no real clarity on what in-housing really is. For example, is it a natural evolution driven by first-party data needs, or is it a partial transfer of workflow and responsibilities so that agencies can concentrate on other client-focused work or something else?
- There is a great deal of research about increasing marketer investments in the technology stack and on innovation, but little on how tech talent and deployment by brand marketers affect budgets and the overall organization.

The research review substantiated the need for more facts, deeper understanding, and an empirical basis for informed conversations about solutions for today and for the future of programmatic and automation. The points detailed above also served as the genesis for topic areas included in the measurement phases of the research.

Research Methodology

As mentioned above, the research design began with a review of the existing research. The key findings of that review are presented above. Armed with a full grasp of knowledge gaps and an understanding of what is known, development of the next two phases, related custom primary research studies, began.

The custom primary research design included both qualitative and quantitative studies. The qualitative methodology was one-on-one interviews with

executives and senior-level experts from advertising agencies, advertisers, advertising technology suppliers, and publishers. The quantitative study used a survey questionnaire and, for respondent recruitment, mailing lists of executives, director-level and higher, at ad tech companies, advertising agencies, advertisers, and publishers.

Qualitative Research Description

The objective of the qualitative one-on-one interviews was to capture deep insights from respondents using their own words and, in turn, using their words to develop a quantitative survey questionnaire that would be comprehensive, easy to complete, and short.

Brief survey instruments are necessary in order to enhance rates of completion and reduce the possibility of respondent fatigue and possible bad data. Brevity of surveys is particularly important in business-to-business research. In addition, qualitative research was required because of the necessary range of skills and expertise among respondents who are needed to provide well-rounded research. To put further context around this point, programmatic and automation are complex, and the levels of knowledge about technology and expertise across the disciplines of marketing, advertising, data, trading, and technology are diverse.

The one-on-one interviews were conducted by a four-person team of trained researchers and interviewers. All four used the same moderator's guide (topic areas outlined below), and all four used the same forms to summarize observations from the interviews. The team also participated in rigorous training on how to administer the interviews and generate safety and openness to encourage respondents to speak freely. All respondents were guar-

anteed anonymity, and they were informed at the outset that the interviews were being recorded and that the resulting transcripts would be used solely for the purpose of analyses.

Prior to commencing the fieldwork, the discussion guide was pilot-tested for flow, comprehensibility, ease of administration, and duration. From January through May 2019, The 614 Group conducted 47 one-on-one interviews with senior industry leaders including C-level executives, business unit heads, SVPs, and VPs. The interviews produced 60 hours of transcripts, which were analyzed. Each interview lasted approximately one hour, and many respondents, including marketers, exceeded this by 15 to 30 minutes. The average one-on-one interview duration was 1 hour and 17 minutes.

Participating companies included:

Advertisers	Ad Tech	Agencies	Publishers
<p>Indeed</p> <p>GSK</p> <p>Hershey</p> <p>State Farm</p> <p>Bank of America</p> <p>Cadillac</p> <p>Marriot</p> <p>Google</p> <p>ThirdLove</p> <p>Unilever</p> <p>Sony</p>	<p>Simulmedia</p> <p>MediaMath</p> <p>Centro</p> <p>Ampersand (formerly NCC)</p>	<p>Spark Foundry</p> <p>Digitas</p> <p>Essence Global</p> <p>Xaxis/GroupM</p> <p>Marcus Thomas LLC</p> <p>Havas Media Group NA</p> <p>UMWW</p> <p>Media Works</p> <p>NEXTMedia</p> <p>22squared</p> <p>Duncan Channon</p> <p>Carat</p> <p>Mindshare N.A.</p> <p>Horizon Media</p> <p>Cadreon</p> <p>Publicis</p> <p>Laughlin Constable</p> <p>CROSSMEDIA</p> <p>AKQA</p>	<p>Univision</p> <p>Warner Media (formerly Turner)</p> <p>Viacom</p> <p>The Skimm</p> <p>NewsCorp</p> <p>Spotify</p> <p>Watson Advertising</p> <p>Hulu</p> <p>Fox</p> <p>CBS</p> <p>Maven</p>

Topics covered in the interviews after opening and warm-up were:

- Dynamics of the Ecosystem
 - Roles and Responsibilities
 - GDPR
- Mechanics of Programmatic Advertising
 - “The Tech Tax”
 - Brand Safety and Ad Verification
 - Identity Resolution
- Programmatic Media: Connected TV/OTT, Audio, DOOH

- Talent Cost
- In-Housing
- The Future of Programmatic and Automation

Analysis of the qualitative interviews focused on identifying key themes across individual respondents within their market segment (i.e. advertiser, agency, ad tech, publisher). The final portion of the analysis was to integrate the themes as well as compare and contrast across the market segments.

Quantitative Research Description

The objective of the quantitative study was to build on the learnings from the research review and the custom qualitative study to benchmark perceptions, attitudes, and business and investment priorities for programmatic advertising and automation today and in the near future.

Questionnaire development relied heavily on key themes and findings from the qualitative study to both identify content areas and use language relevant across the ecosystem. As indicated previously, the complexities of some of the concepts examined and the fairly broad swath of leadership roles and responsibilities among the respondents mandated use of language in the survey that would be clearly understood by all.

Further, the questionnaire had to be brief and reasonably simple to complete. This constraint is common in most survey work, especially in business-to-business research in order to avoid respondent fatigue and to bolster completion rates.

Respondents were recruited using mailing lists from three sources: The 4A's database, The 614 Group database, and a purchased list of top brands' management personnel. The target respondents were director-level and above individuals at advertising agencies, marketers, publishers, and ad tech companies.

Field dates were July 18, 2019, through September 11, 2019. During the course of the fieldwork, reminder emails were sent at intervals of approximately two weeks. A total of 219 executives completed the survey questionnaire. While the goal had been to reach 300 completes, timing and response rates did not permit extending the field dates beyond September 11.

Survey questionnaire areas include:

- perceptions of programmatic and automation
- the current state of marketplace needs/challenges in critical areas
- the importance of the benefits of identity resolution
- the importance ad agency functions today
- views on ad agency functions in the next two to three years
- perceptions of in-housing
- value of investments in talent, technology, data, and measurement
- perceptions of the TV landscape
- priorities for the future (defined as the next three years) of programmatic and automation

Findings

Qualitative Themes

The themes that emerged show nuances across and even among the segments. Regardless of who they are, what they do, where they work, or what their titles are, most respondents talk about data, and they do so early in the interviews when the completely open-ended warm-up conversations take place. This indicates that data is top-of-mind in conversations about programmatic.

Data looms large over everything programmatic and, as such, over the discussions around automation. The overarching presence of data is also a foundational point in the conversations about in-housing and certainly about investments in technology and talent. Early in the analyses of the transcripts, it became clear that programmatic is far more about data than about media transactions alone.

The word cloud below depicts the dominance of data among the many words in the one-on-one interviews.



Another overarching concept that applies to much of what interviewees talked about is interoperability of data, along with business process and business intelligence. There are nuances and some detail involved in interoperability as expressed in the study.

Lack of data interoperability has two components: lack of identity resolution across the walled gardens and the rest of the ecosystem, as well as data from multiple sources that may not integrate accurately or at all. Data interoperability is seen as hampering the ecosystem's ability to understand the full value of campaigns, including basics like reach. Identity resolution is generally a priority for all constituents of the ecosystem, but there is nuance around scale and how much granularity might be too much.

Without interoperability, data flows, even putting aside the walled-garden issues, are not consistent and thus diminish data quality and timeliness. The capacity to utilize all available data sources is also diminished.

There is demand for technology products that speak to one another. The lack of interoperability among technology products affects staffing, training, and operating fees. The evolving ad tech landscape characterized by both ad tech fragmentation and possible consolidation can affect how tech stacks are built and upgraded over time. This adds complexity when simplicity is desired.

For publishers, a specific challenge of lack of interoperability is the lack of transparency around inventory pricing in different programmatic marketplaces. Costs associated with yield management in this environment affect budgets and client service.

In addition to data and interoperability as overarching concepts, there are eight key themes that surfaced in the analyses. They are:

1. The Promise of Programmatic is Still Not Realized
2. The Perception of Programmatic Still Varies
3. The Views on Automation Also Vary and Fall Into Two Buckets
4. Investments in Talent and Technology Are Ongoing and Significant

5. The Role of the Agency is Changing Rapidly
6. Data Quality is Slammed, but Data-Driven Marketing is The Future
7. It's Not about Tech Tax; It's About Value
8. The Future of Programmatic is Automation, and That Refers to ALL Media...Including TV

A brief note on GDPR and privacy is in order. The interview discussion guide used for the one-on-ones included open-ended questions on privacy. Inter-

viewees mentioned the need for respect, privacy and compliance. Some prefaced certain data use aspirations with the caveat that the privacy regulations and compliance be strictly observed. One senior marketing executive brought an imperative for ownership and control of first-party data front-and-center into the discussion of privacy. When probed, some expressed a degree of wait-and-see regarding pending U.S. privacy regulation with the hope for consistency across states.

Key Theme #1: The Promise of Programmatic is Still Not Realized

Interviewees voiced disappointment in the as-yet unfulfilled promise of programmatic. The unfulfilled promise is evidenced in disappointment in the capacity of programmatic to deliver the right message to the right person at the right time. It shows up in comments about the wonder that programmatic promised versus the reality of programmatic devolving into a driver of low cost rather than value. These comments wrap around the notion of programmatic being unable to truly understand mindset, motivation, and need states to deliver hyper-relevant messages. The more tech-focused perspective is that rather than create simplicity and deliver on amazing possibilities, programmatic has instead increased complexity in some areas.

“If we go back to [the origins of] programmatic, going back to this amazing promise of price discovery, right creative, right audience, and you could eliminate, theoretically, wasted impressions in the marketplace, that was the overarching umbrella as to why programmatic became so exciting....The promise to agencies at the time was that it was going to be more efficient to them from a labor perspective....It's increased the need for separate teams or separate people. It's increased complexity. It's ushered in a ton of new things that we weren't dealing with before.”

—Ad Tech Founder

“In a lot of marketplaces, when new technology comes online, we are great about leveraging data to target people. The creativity and the storytelling behind a company or a brand or an offer—that was left behind.”

—Global Agency Executive

“To reach the next level of programmatic is to introduce the missing variable, which is the human compassion and empathy and creativity that comes along with marketing science.”

—Programmatic Agency Lead

“We have a propensity-to-buy model, which is for all these internal prospects, and one of the things we're working on now, to actually talk about creative as well, is working out what's the right creative messaging for these different buckets.”

—Executive, Marketer

Key Theme #2: The Perception of Programmatic Still Varies

To some respondents, it appears that programmatic is scalable electronic media execution. To others, programmatic is the future of all marketing. And if it is the future of marketing, then is it the data exchange and analytics vehicle from inception of marketing campaigns through deep consumer insight for all media? This notion of data and analytics is mentioned in reference to a number of core marketing processes: identifying the campaign target and media to go with the target; message optimization; cross-media understandings and creation of new insights that span marketing touchpoints and consumer experiences with a brand.

“The way that I define programmatic is taking out as much paperwork and manpower work around the paperwork to get a deal done and being able to structure deals and trading in a more electronic

fashion, which means less paper involved and more connecting of pipes, trading of inventory, etc. Some of it may be on a real-time basis, while others might be inventory that we’ve already planned to buy together, and we’re just exchanging it electronically, as opposed to submitting an IO, for example.”

—Senior Executive, Marketer

“I think of programmatic as being biddable marketplaces where you’re leveraging your data at scale to make decisions about what you market, how you market, to whom you market and, most important, what is that message. The automation comes in with programmatic in that these things are done best with machines, are done best leveraging billions and billions of data touch points. So, the idea is, how do you get smarter?”

—CEO, Agency Division

Key Theme #3: The Views on Automation Also Vary and Fall into Two Buckets

As one can see from the above comments, interviewees generally distinguished between automation and programmatic. For some respondents, automation is primarily a workflow efficiency issue: seamless technology that eliminates rote tasks and multiple layers of manual interference in the programmatic transaction workflow. Other interviewees expressed an understanding of automation as higher level decisioning rules or higher level thinking functions using multiple data inputs along with sophisticated algorithms, machine learning, and AI. In regards to the latter point, the last interviewee quote above states that the automation comes into programmatic to answer the need to be smarter with billions of data points. Automation enables complex analytics to be assimilated and leveraged in the campaign management process. Quotes that exemplify the two understandings of automation, no more manual work and higher level decisioning, follow.

“Automation to me is limited to no actual paperwork involved and using electronic means to basically get the work done.”

—Senior Executive, Marketer

“Programmatic is a way to buy. Automation is so much more. That could be anything from setting up triggers on the back end— i.e., someone meets certain requirements or doesn’t meet certain requirements based on either engagement or non-engagement with an ad, or engagement or non-engagement on a site, and then you can automate programs or campaigns to re-market to them.”

—Head of Programmatic, Marketer

“Automation is typically associated with some form of algorithmic or machine learning or perhaps a specialized form of machine learning such as artificial intelligence.”

—Senior Executive, Marketer

Key Theme #4: Investments in Talent and Technology Are Ongoing and Significant

As the entire ecosystem evolves, with a focus on data and data-driven marketing, there are impacts on budgets for media, technology, and talent. For agencies and publishers, there are some immediate effects on operating revenue. The costs that were mentioned break out into three areas: talent costs, technology, and costs associated with moving functions in-house.

Regarding the first, talent, both data scientists and technology (engineering, IT) are the primary mentions by respondents. One senior marketer expressed the concern that when new tech talent is needed to enhance the marketing tech stack, executives in finance frequently want to assign that cost to a general IT budget even though the talent is needed to achieve marketing goals and requires highly specialized skills.

As for technology costs, some interviewees mentioned data management platforms and analytics programs as well as second- and third-party data fees.

The third cost parameter mentioned the costs associated with moving certain programmatic and media functions in-house. Those mentions revolved around the high costs for the right talent and the tech stack, as well as the marketing dollars being used to cover those costs.

“Reporting is still not unified, so it still requires

a lot of manual work from analysts to marry data sets and analyze them, programmatic talent is more expensive and there are fewer of them than direct IO talent”
—CRO, publisher

“It’s huge [tech investments]. I’ll be honest. As a percent of my total budget, we’re spending more in technology and platforms than ever before....The number that you have for disposable, discretionary advertising shrinks because, in my case, it comes out of the same fund.”

—Senior Executive, Marketer

“It’s way too expensive to keep the tech stack up-to-date—too many players.”

—Senior Sales Executive, Media Company

“If I’m a publisher, I am not trying to build anything programmatic.”

—Senior Sales Executive, Media Company

Key Theme #5: The Role of the Agency is Changing Rapidly

There is a tremendous amount of noise in the marketplace about agency-client relationships, in-housing, and other topics that collectively create an unnecessary sense of doom and gloom. What this study illustrated quite sharply is that as the market evolves, so does the role of the agency. That entails transformative action on several fronts including investments and business models. Even marketers who have moved many programmatic functions in-house were clear on the notion that the central role of the agency—that is, having cross-client and cross-vendor expertise—is vital to the success of their in-house efforts and their marketing success.

Interviewees cited the capacity and the need for agencies to be consultants on technology required for media and marketing success. The respondents also talked about the important role of agencies in evaluating the many technology and data vendors. One marketer cited the need for specialized talent and broad overviews of the market as a primary reason for not moving programmatic or other media functions in-house. Others mentioned that consultative expertise on unraveling complexities in the marketing landscape is a vital function for agencies.

The quotes below articulate some of what is sum-

marized and also provide depth around how art and science together will ultimately alter how creatives

“The role of the agency is to be the conduit, to have the lens of the client, but also the lens of the media landscape, and bridge those two together.”

—Head of Programmatic, Agency

“Agencies need to be strategic consultants with clients, helping them audit their access to data, and then, most importantly, how the client should own the data....The agency should be agnostic and come in as a consultant, whether it's about the DMP or their access to their data.”

—CEO, Agency Division

“For agencies, two things are coming to the forefront. You've got to execute on big data, and you've got to start building data -science capabilities in your agencies....And then you're going to have creatives think differently. Not as one-dimensionally about how a campaign rolls out, [but] about how the campaign can change dynamically in real time....Messaging...could be multiple messages. It still might ladder up to a big core idea....I think it's going to get tougher on the creatives because the science is getting so precise.”

—Senior Executive, Marketer

create and tell brand stories.

“I think the onus is on everybody; it's not just the agencies that need to change. Marketers need to be very clear that the agencies have an important role in the success of making sure we're a successful programmatic advertiser.”

—Senior Executive, Marketer

“So, for TV, we do use an agency. I don't know if that really counts as far as, like, using an agency, but I will say that there has been some pressure from our leadership team to have us buy TV direct.”

—Executive, Marketer

“I believe agencies are important in the ecosystem; however, I see them as needing to evolve into more consultative roles and less so in terms of providing strategy, and more so in being able to provide operational excellence and capabilities. Again, they are a necessity in the market.”

—Programmatic Executive, Publisher

Key Theme #6: Data Quality is Slammed, But Data-Driven Marketing is the Future

Throughout the interviews, there were strong indictments about the quality of data being used in today's programmatic advertising market. In some cases, the dearth of data quality transparency and control was mentioned, along with the inability to assess data coming from the walled gardens. More than one interviewee called for some kind of centralized industry function or body to evaluate data quality, with the quote below even going as far as suggesting a data rating system. Despite the concerns, the strongly and widely held belief that data-driven marketing is the future is dominant in the interviews. As you will see later in this paper, this is borne out by the quantitative research.

“Data is the problem right now in programmatic. It's all treated like an exogenous variable it's all the same, it's all standard. And it's not. The quality of data is the Wild West. Some environments, like the walled gardens, don't pass data back to you in any useful way. Other environments have data that comes back that's been treated or processed or is old. The data signal we use can be corrupted. There needs to be Tier 1 data, Tier 2 data, and Tier 3 data, where Tier 3 is crap and Tier 1 is gold. And we don't have that today, and so it requires a lot of work. If other marketers looked under the hood on the quality of data, it would definitely be significant headwind for programmatic adoption.”

—Senior Executive, Marketer

“We use data targeting in two ways—one is to understand the kind of person that we’re trying to address, and then two is just to optimize to reach our goals better now. When we’re talking about third-party data, if I’m trying to sell cars, I’m gonna go for that in-market auto segment, probably, and when I put it on a media plan to present to clients, they like to see that data. The thing is that that data set is probably modeled to heck, and I don’t know whether those are people that are actually in-market auto or not.”

—Global Head of Activation, Agency

“I think our whole attribution space and measurement model beyond the basics is nowhere close to being cleaned up where it needs to be. So, even if you are buying and using these data overlays to buy like that, I think the jury’s still out on how you pinpoint if it’s working or not, is it adding value or not.”

—Senior Executive, Marketer

Key Theme #7: It’s Not about Tech Tax—It’s about Tech Value

In exploring the concept of the tech tax, it was important to try to parse out what the concept of the tech tax represents across the ecosystem, both to those who deal with these costs hands-on and those who sign off on the expenses. Is the “tech tax” simply the cost of doing business, or does it refer to hidden fees and unexpected costs associated with various tools and services needed to execute programmatic advertising? In order to understand the dichotomy embedded in the question “What is the tech tax?”, you have to closely consider the views of each part of the ecosystem. Many respondents were unclear as to the exact meaning of the term (contrary to noise in the marketplace). However, once it was explained, the respondents understood that, yes, while it is part of the cost of doing business, it is transparency around those costs that is the heart of the issue. From marketer to publisher, there was a range of views as evidenced by the quotes below. Some of the quotes illustrate what we believe is an emerging narrative of value associated with costs. The quantitative data also helps to shine a light on what costs people feel are essential, those which have the most value, and those which are less so.

“There’s a lot of quotes about how big the tech tax is, and when I see those numbers, I’m like, ‘Somebody is very bad at negotiation.’ Which is fine. We’ve worked really hard as we’ve brought on our new partners to get our tech tax down to a number that makes sense for our business.”

—Executive, Marketer

“I think the fees are getting more transparent, but publishers certainly do not know. The buyers are seeing more, but the sellers are still in the dark.”

—Advertising Technology Executive

“The so-called tech tax is often the non-transparent part of the equation, which I think that’s the reason I believe many clients brought programmatic in-house so they would have access to seeing those fees and managing those fees.”

—Agency Holding Company Executive

“The tech tax is something that people perceive as being tremendously egregious, and I think the expectation for transparency in the ecosystem, I don’t have any issue with that happening. I think, though, we really need to get at the nuts and bolts of what transparency means and who we expect to have it.”

—Agency Holding Company Executive

“What are the truly meaningful pieces? Because we’re perfectly happy paying for and asking our clients to pay for things that are truly meaningful, that are truly adding value, but let’s minimize, if not eliminate, those areas that aren’t.”

—Agency Holding Company Executive

“A technical fee commensurate with the value it brings between the buyer and seller of media makes a lot of sense. I think the reason that the word ‘tax’ has come into play is that people always feel like taxes are too high, and it’s an unfair amount that’s withdrawn from the transaction, and that’s the issue, which is I think that we as an industry have allowed too many players to take an outsized amount of value out of the transaction versus what value they bring.”

—Advertising Technology Executive

“On costs being clear: “No, it’s not clear. I want to talk to somebody that says it is, but, no, I get lost all the time. For instance, why is this CPM or why is this cost associated? I don’t know what the hell they’re charging.”

—Operations Executive, Media Company

Key Theme #8: The Future of Programmatic is Automation, and That Refers to All Media...Including TV

Across multiple interviews from all parts of the ecosystem, two central ideas about the future of programmatic emerged. One is that TV must and will be part of the programmatic marketplace in order for all advertising to be data-driven, and in conjunction with that is the idea that automation is the future of programmatic. One interviewee even hypothesized that perhaps in the future the term programmatic will not be used for data-driven marketing automation. The aspiration that TV will become automated and that advertising will be planned and transacted

using more data and more integrated thinking is clear from the interviews. The quotes below illustrate that.

In addition, the bigger notion of the power of automation for a future that is smarter, faster, and real-time, and that also eliminates manual work, ensures inventory hygiene, and enhances creatives, is illustrated in quotes following those regarding TV and video.

TV

“There will be a time, I don’t know when, when almost all media is bought programmatically or is automated in some way. You just look across the entire landscape and look at the financial world, and media is the laggard. So I don’t think there’s any way you could stop that.”

—Senior Executive, Marketer

“My hope is that one day, every TV ad I put on TV could be individually addressed down to the household with the one message to the customers and one to non-customer homes.”

—Advertising Director, Marketer

“Data-driven marketers are insisting on [TV/OTT/addressable TV]. It’s relatively scaled, and most of the time, we’re doing it as part of a more comprehensive cross-channel video strategy. So how do you get targeted video in front of people, whether it’s on a smartphone or a laptop or an iPad or through a connected TV or a streaming device?”

—CEO, Agency Division

“I think the most notable over the next three to five years is going to be the platformization/automation of television. I think people that have data and technology backgrounds are kind of invading the TV world. And some people really do feel like that’s the right word: to create a different way of transacting, and just a lot more automation and a lot more transparency in the TV world, similar to that of the last 10 years of digital.”

—Global Head of Activation, Agency

“Going forward in the future, I don’t think the industry becomes 100% programmatic...endemic client relationships with brand-content fit will still comprise 20% of sold inventory.”

—Head of Revenue, Tech and Content Provider

The Automated Future

“AI everywhere, machine learning—automation needs to have more and more around it, how we can provide more automation to the supply chain and then the creation of bespoke automation...The future of automation is custom.”

—SVP of Global Partnerships, Ad Tech

“I think the future is AI and machine learning. It comes down to these machines and these systems just getting smarter and smarter, and it allows for people... to do more of the creative, strategic, thoughtful work.”

—CEO, Agency Division

“The machine is doing optimization for us on a very impactful placement level basis right now. I think it increasingly will understand what your preferences are for brand safety and do that configuration. It’ll seek out non-fraudulent inventory and make that optimization easier and kind of crawl up the waterfall.”

—Global Head of Activation, Agency

“I think the next generation is things like AI.”

—Global CEO, Agency Division

“We will find a more natural and beautiful balance of things that can be and should be automated which frees up the human brain to do what only the human brain can do. And that is...clean insights, develop strategies, come up with big, beautiful, creative, brand-building, business-driving ideas, and let the technology and the automation take the brunt of those formerly more manual, labor-intensive pieces off of our hands, off of our back.”

—President, Advertising Agency

“I would like it to be automation. I would like it to be a fair and equitable marketplace and relationship where we have been able to use data between the parties, between the publishers and the advertisers and the middle men, in an equitable way so that we can all find the best partnerships for each other and it’s transacted quickly, obviously. So decisions are made and you can transact quickly,”

—VP of Programmatic, Media Company

“So it is the future of what we’re doing that will manifest itself in different forms of programmatic trading—programmatic guaranteed or programmatic direct, private marketplace versus an open RTB kind of biddable infrastructure. But I believe further automation and further enablement of data to drive performance is the future of our industry.”

—Sales Executive, Media Company

“There will not be a need for manual ad operations anymore. There will be systems that are directly plugged into one another across all platforms, with the exception, I think, of linear. I don’t think that goes full, full automation. There will be elements of automation that will be there.”

—Sales Executive, Media Company

Quantitative Findings

In addition to quantifying themes from the qualitative research, the survey research also examines areas that surfaced in the qualitative insights. For example, the questionnaire specifically asks about the value of investments in talent, technology, data, and measurement to the respondents' respective businesses. Another example stemming from the qualitative analyses is a question that outright asks respondents to select their #1 priority for marketing and advertising automation in the next three years.

A high-level finding is that the quantitative research

confirmed that the themes in the qualitative study are valid. Moreover, the survey data expands upon the qualitative nuances in a manner that permits an understanding of where the market is today.

Findings from the survey are organized by topic below. Throughout the analyses, references to the qualitative findings are made. An important note is that analyses that include subgroups all indicate when the findings are directional due to small sample sizes.

Perceptions of Programmatic and Automation

The qualitative research indicated that perceptions of programmatic and automation still vary. In the quantitative study, respondents answered a number of questions that flesh out the market's view of what programmatic and automation are.

The survey questionnaire asked respondents to choose a definition of marketing and advertising automation that most closely matches their own. This particular question offered the opportunity for the research to examine how the two notions of automation fit into a holistic view of marketing and

advertising automation.

The dominant perception is that marketing and advertising automation are inclusive of using technology to eliminate manual tasks as well as data-based rules and decisioning such as algorithms, machine learning, and AI (90.4% selected this as the definition). Only 9.1% of respondents selected the alternative definition: "Marketing and Advertising Automation is a process that is strictly referring to the use of technology to eliminate manual tasks and paperwork."

Table 1: Definition of Marketing and Advertising Automation

Q: Please choose the definition of Marketing and Advertising Automation that most closely matches your own definition.	% Of Respondents Choosing
Marketing and Advertising Automation is more than just the use of technology to eliminate manual tasks—it also includes the use of data-based rules and decisioning such as algorithms, machine learning, or artificial intelligence.	90.4%
Marketing and Advertising Automation strictly refers to the use of technology to eliminate manual tasks and paperwork in transacting advertising.	9.2%
Other	0.4%

As discussed in the section on the qualitative findings, a key theme that emerged is that for interviewees across the ecosystem, the promise of programmatic remains unfulfilled. The industry leaders who spoke with us cited needs for:

- more automated processes and interoperable programmatic technology that will simplify workflow,
- automation that will enable higher level decisioning, such as AI (within the programmatic workflow), and
- better quality data than that used in decisioning today.

These issues are at the heart of the disappointment found in the qualitative research indicating that programmatic is still unable to deliver the right message to the right person at the right time. Thus, the survey measured perceptions of programmatic and automation in simple statements that break down the component issues.

The findings unequivocally substantiate the perception that programmatic does not equal automation. More than three quarters of the respondents (76.3%) disagree with the statement “Programmatic advertising has eliminated nearly all the manual work in buying digital media.” Over two thirds (67.6%) disagree that “programmatic and automation are the same thing.”

While respondents currently believe that programmatic and automation are not the same, and that marketing and advertising automation are inclusive of both elimination of manual tasks and higher-level decisioning and data-based rules, the view that “programmatic is the technology infrastructure that will underpin all data driven marketing in the future” is shared by nearly two thirds of respondents (62.6%).

The quantitative data on perceptions of programmatic shows directions for improvement in the current state and thus for getting closer to the promise of programmatic. And these directions foreshadow what we learned in questions that specifically tapped into priorities for business in the near- and longer-term futures, where near-term is up to one year and longer-term is equal to the next three years. Two items that may be interrelated

provide a notion of direction for improvement and potentially realizing programmatic’s promise. One is that agreement with the statement “The array of inputs needed to reach the right person at the right time with the right message cannot currently be leveraged in programmatic without higher levels of automation” (45.2%) is significantly higher than disagreement (29.2%) with the statement. The other item, “The highly sophisticated algorithms used in programmatic advertising reliably deliver real-time optimization without human involvement,” garners disagreement by half the respondents (50.2%) and agreement by a significantly smaller proportion (35.2%). In both instances, today’s differentiation between programmatic and automation are evident.

The current in-market meme of reaching the right person at the right time with the right message is not widely accepted nor is the notion of delivering real-time optimization. Both perceived inadequacies are framed in the context of higher levels of automation that are still lacking.

Table 2: Perceptions of Programmatic Advertising

Q: Programmatic advertising uses data and technology to identify audiences and inventory, as well as to purchase media. Please select your level of agreement with the following statements about programmatic advertising.	% Agree/Neither Agree Nor Disagree/Disagree		
	Agree	Neither Agree/ Disagree	Disagree
Programmatic is the technology infrastructure that will underpin all data-driven marketing in the future.	62.6%	22.4%	13.7%
The array of inputs needed to reach the right person at the right time with the right message cannot currently be leveraged in programmatic advertising without higher-level automation such as AI.	45.2%	23.7%	29.2%
The highly sophisticated algorithms used in programmatic advertising reliably deliver real-time optimization without human involvement.	35.2%	13.7%	50.2%
Programmatic and automation are the same thing.	18.7%	11.9%	67.6%
Programmatic advertising has eliminated nearly all of the manual work in buying digital media.	13.2%	9.1%	76.3%

Business Priorities

When asked to rank the importance of three benefits of programmatic advertising to their respective businesses, the benefit most frequently selected as #1 focuses on leveraging data in biddable marketplaces to achieve cost-efficient audience targeting (59.4%). The second-most cited benefit is enabling greater impact in a media buy regardless of cost or labor efficiencies (27.9%). This is a significant difference, indicating that audience targeting cost efficiencies are a dominant consideration for most respondents in assessing the benefits of programmatic.

Note that the study was not designed to measure definitions of cost efficiency in today's market. Based on comments in the qualitative study and the broader findings of the quantitative research, the notion of "cost-efficient" may mean lowest cost regardless of value, but it may also mean best price for the desired targeting. Embedded in the idea that "cost-efficient" is a potentially evolving term is also the notion that the industry is evolving into a value for cost mindset.

Where possible—that is, where there are statistically stable cell sizes—subgroup analysis may be helpful in understanding more about responses reported herein. The benefits of programmatic ranking is one example. The survey asked for respondents' job responsibilities. Those who have media-buying or planning responsibilities were significantly more

likely than all others to rank "ability to leverage data in biddable marketplaces to achieve cost-efficient audience targeting" as the #1 benefit to their business (74.4% vs. 49.6%), while those who are not responsible for buying/planning are somewhat more likely to name "enables greater impact in a media buy regardless of cost or labor efficiencies" as the #1 benefit of programmatic (35.3% vs. 27.9%). While directional only, this does indicate for those not directly charged with overseeing the execution of media plans and buys that impact regardless of efficiencies may be a valuable benefit of programmatic advertising. This may also indicate that planning and buying execs are faced with certain realities in execution on a regular basis that others are not facing.

Table 3: Three Benefits of Programmatic Advertising to Your Business

Q: Following are three statements about the benefits of programmatic advertising. Please rank these benefits in order of importance to your business, with 1 being most important.	% Ranking as #1 Benefit		
	Total	Media Buying/ Planning	All Others
Ability to leverage data in biddable marketplaces to achieve cost-efficient audience targeting.	59.4%	74.4%	49.6%
Enables greater impact in a media buy regardless of cost or labor efficiencies.	27.9%	16.3%*	35.3%*
Exchanging and enriching data sets.	12.2%	9.3%*	15.0%*

*Directional only due to small cell size

As stated, a fundamental goal of the research is to identify ways to improve the state of the marketplace and plan for a future that is better for all constituents. Several questions in the survey were developed to measure and identify priorities for industry solutions or marketplace needs that remain unfulfilled. Below are data on the first of these questions.

From among a series of eight items that describe some specific marketplace needs and challenges in programmatic advertising, respondents were asked to select the two items that are most important to their respective business goals in the next six months to a year. Only three items were selected by more than 20% of respondents. (Note: this threshold is directional due to cell sizes for items that garnered less than 20%.)

The three top choices speak to ongoing issues surrounding better real-time optimization tools—specifically: integration of data and campaign tracking technologies; solutions to provide holistic online and offline campaign evaluations; and identity resolution. Taken together, these findings are indicative of a strong need for better tools and solutions to provide faster and more complete understanding of how advertising campaigns are working. These results are consistent with findings detailed below regarding identity resolution, and the value of investments and priorities for the longer term (two to three years).

Table 4: Most Important Near-Term Marketplace Needs/ Challenges in Programmatic Advertising

Q: Below are statements describing some specific marketplace needs and challenges in programmatic advertising. Please select the TWO items you believe are most important to your business goals in the next six months to one year.	% Choosing Each Item		
	Total	Agencies	All Others
Better integration of data and campaign tracking technologies to fully empower campaign optimization in real time.	44.3%	47.5%	38.8%*
Solutions to provide holistic evaluations of campaigns that run across online and offline media.	39.3%	47.5%	25.0%*
Identity resolution across/between walled gardens and publishers.	31.5%	31.7%*	31.3%*
Greater transparency on the costs and fees associated with programmatic advertising.	19.2%*	15.8%*	25.0%*
Fewer add-on technologies and more seamlessly integrated platforms.	18.7%*	21.6%*	32.5%*
A dedicated, independent mechanism to verify that audiences are represented accurately by vendors/providers.	18.3%*	10.8%*	12.5%*
Fully automated programmatic advertising with workflow technology that truly eliminates manual processes.	16.0%*	14.4%*	18.8%*
A tiered system that defines better-quality and poorer-quality data.	11.0%*	9.4%*	13.8%*
Other	1.8%*	1.4%*	2.5%*

Note: does not add up to 100%

*Directional only due to small cell size

Directionally, there are some differences between respondents at agencies and all others. Most notable is that those at advertising agencies are more likely to name “Solutions to provide holistic evaluations of campaigns that run across online and offline media” as one of the top two items that are important to their business goals. The breakout shows that across the two groups, identity resolution is among the top needs/challenges that are important to their business goals at the same level.

All respondents—that is, not just those who ranked identity resolution as one of the two most important needs/challenges to their business—were asked about the importance of a series of seven benefits of identity resolution to their respective businesses (across the walled gardens) and the publisher ecosystem. All seven benefits measured were deemed important by at least half of respondents (50.2%).

The benefits of identity resolution deemed important by the vast majority of respondents (more than two thirds) center on accuracy in target audience delivery and knowing, managing, and optimizing both “true” campaign reach and frequency. The benefits surrounding consumer relationships and

development of marketing experiences rather than ads alone are seen as important by a majority of respondents (nearly two thirds). Half of the respondents deemed moving to real-time dynamic creative optimization as an important benefit of identity resolution, echoing the findings on the need for better data in fulfilling the promise of programmatic advertising. Directionally, the senior-most executives attributed greater importance to true reach, deeper and broader relationships with individual consumers, and moving marketing from just ads to experiences than all others surveyed. (See Table 5)

Table 5: Importance of Benefits of Identity Resolution Across the Walled Gardens and the Publishing Ecosystem

Q: Please select the degree of importance to your business of the following benefits of identity resolution (across the walled gardens) and the publishing ecosystem.	% Extremely Important/Very Important		
	Total	C-Level/ Managing Director/GM/EVP	All Others
Greater accuracy in running and evaluating cross-device campaigns to ensure delivery to the target audiences rather than devices.	77.2%	74.5%*	78.0%
True audience reach numbers for campaigns.	74.9%	83.6%*	72.0%
Facilitation of frequency management and optimization.	68.5%	70.9%*	67.7%
Deeper and broader relationships with individual consumers.	65.3%	74.5%*	62.2%
Moving marketing from just ads to experiences.	62.6%	74.5%*	58.5%
Marriage of publishers' and advertisers' first-party data to develop high-touch experiences and enhanced content partnerships.	60.7%	65.5%*	59.1%
Moving to real-time DCO (Dynamic Creative Optimization).	50.2%	58.2%*	47.6%

*Directional only due to small cell size

In a follow-up question on identity resolution, respondents were asked about their agreement/disagreement levels with the statement "A better understanding of user experience within walled gardens would be invaluable in helping me achieve my campaign goals." There is a strong belief that more transparency from the walled gardens is extremely valuable. More than two thirds of respondents (69.4%) agreed with the statement. Moreover, over

a fifth of them (26%) "strongly" agreed.

With data and interoperability as overarching themes of the qualitative findings, and further substantiated throughout the quantitative study, it is not surprising that respondents place a premium on understanding walled gardens' user experiences with advertising campaigns.

The Changing Role of the Agency Now and In the Future

The entire ecosystem has been and continues to be disrupted: Changing consumer tastes and deepening media fragmentation, technology and data, and new business models such as direct to consumer brands are all part of the picture. Marketers continue to change in order to grow their businesses, witness the renaming of the CMO function to Chief Growth Officer in some companies, and so, too, do some of the advertising agencies. In the qualitative research, we learned that despite noise in the marketplace,

many agency functions are not only changing, but continue to be central to advertisers' consumer marketing programs and goals.

Responses to the question "As programmatic and automation each grow, roles and responsibilities are changing. How important are the following advertising agency functions to your business today?" appear below.

Table 6: Importance of Agency Functions to Business Today

Q: As programmatic and automation each grow, roles and responsibilities are changing. How important are the following advertising agency functions to your business today?	% Selecting "Extremely Important"
Leveraging data to target audiences and media buys.	72.1%
Helping to develop a strategic vision for clients.	70.3%
Providing broad agency expertise to help clients navigate the complexities of today's marketing landscape.	58.9%
Strategic tech consulting, especially to vet new tech, platforms, and vendors and provide a POV for clients.	48.9%
Executing programmatic campaigns.	47.9%
Having agency investment clout in programmatic markets.	35.6%
Negotiating better priced linear TV deals.	30.1%
Using dynamic creative optimization (DCO).	26.5%

The emphatically strong responses to the first three agency functions above is particularly noteworthy. Generally speaking, in market research, more than one quarter of responses in the top box (e.g., “extremely”) is a strong read. The following paragraphs offer some interpretation of the findings.

Leveraging data to target audiences and media, and helping to develop strategic vision are extremely important to more than two thirds of respondents. These two functions are, in many ways, more evolved forms of longstanding agency roles. Broad agency expertise to navigate the complexities of today’s marketplace reflects today’s challenges and clearly puts the agencies in a central leadership role. Interestingly, negotiating clout for both TV and programmatic advertising are important, but not as much as the other capabilities. Coming in last among the important roles today is using dynamic creative optimization (DCO).

The perceived importance of using DCO today is consistent with two quantitative findings covered above. The first is the perception that reaching the right person at the right time with the right message is still not realized with today’s still not fully automated tools. The second is that, while deemed an important benefit of identity resolution, using real-time DCO is seen as less critically important than other possible benefits. This may tie into some of the assessments of programmatic advertising still underdelivering on its full promise. Real-time DCO is data- and automation-dependent, and when one looks at respondents’ perceptions of the future role of the agency, the infusion of data into the creative process and storytelling is prominent.

In response to a question about the functions of the advertising agency in the next two to three years, the majority of respondents, nearly three quarters (73.1%), agree with the statement “The creative function will have to use data to go from the linear storytelling paradigm that dominates today to more dynamic, personalized messaging.” This statement about possible future functions of advertising agencies received the highest level of agreement among the five measured statements. This finding is important not only because of the possibility that in the next three years the agency creative function will be a data-infused art that adapts to immediacy in a way

that the current linear storytelling paradigm cannot, but also because it enhances our understanding of where data-driven marketing is going. The creative discipline changes in a data-driven world and thus enables what will be true real-time DCO.

Nearly two thirds of respondents see the primary role of the agency in the next three years to be leveraging technology, data, and data science to manage cross-platform marketing. At the same level of agreement is the view that agencies’ greatest value will be a focus on investment expertise and centralized reporting. Taken together, these two perceptions of the future agencies’ functions indicate that as programmatic and automation enhance capabilities and provide solutions, data-driven marketing will require broad, highly specialized, centralized services from agencies in order for advertisers to further their marketing programs. Additional evidence for this interpretation is found throughout the qualitative study.

Table 7: Perceptions of Agency Functions in the Next Two to Three Years

Q: Now, let's consider the functions of advertising agencies in the next two to three years. Please indicate your agreement with each statement.	% Agree		
	Total	Advertising Agency	All Others
The creative function will have to use data to go from the linear storytelling paradigm that dominates today to more dynamic, personalized messaging.	73.1%	77.0%	63.3%
The primary role of the agency will be to leverage technology, data, and data science to manage cross platform marketing.	64.8%	73.4%	50.0%*
Agencies will bring their greatest value through a focus on investment expertise along with centralized reporting.	61.6%	59.7%	65.0%
Agencies will have to go back to the full-service agency structure to become agile enough for the age of real-time marketing.	39.3%	38.8%	40.0%*
The primary role of the agency will be to activate audiences through programmatic infrastructure.	36.5%	35.3%*	38.8%*

*Directional only due to small cell size

Interestingly, nearly two fifths (39.3%) of the respondents agree that agencies will have to go back to the full-service agency structure to become agile enough for the age of real-time marketing. This idea

was tested in the quantitative study as a result of hearing the suggestion from two marketers in the qualitative phase of the research.

In-Housing

Despite the sometimes sensational headlines about the widespread move to in-housing, the qualitative research found that in-housing is by no means monolithic, nor is it all-or-nothing. It comes in a variety of evolving business relationship models.

The qualitative interviews revealed that for some marketers, in-housing is a function of control over their first-party data; for others, it permits their agency to be more involved in strategic vision and solutions to today's complex landscape. For others still, the agency fills a new role in consulting on how to evaluate and build the client tech stack, and finally, some find there is little appetite to move anything in-house. Inspired by what the qualitative study indicated, the quantitative research measured benefits and challenges of in-housing as we know it today.

More than half of respondents (58%) see attracting and retaining the right talent as the biggest challenge to in-housing. In addition, more than half (53.9%) view the main benefit of in-housing to be marketer control of first-party data. Approximately two fifths (41.1%) think that in-house talent will not be able to keep up with all the latest developments in ad tech, which is not surprising given the concerns about attracting and retaining the right talent. Roughly two fifths (39.3%) view moving programmatic functions in-house as a way of giving agencies more focus on strategy and less on trading.

Interestingly, directionally due to cell sizes, when ad agency respondents are compared with all other respondents, the findings are similar. One directional note is that those not at agencies are more likely than agency executives to subscribe to the view that "Some programmatic functions belong in-house so that agencies can focus more on strategy and less on programmatic trading" (47.5% vs. 34.5%).

Another directional note is that respondents who are not at agencies are far more likely than those who are at agencies to see in-housing as facilitating marketer-publisher relationships and the creation of custom content (41.3% vs. 24.5%).

Table 8: Perceptions of Programmatic In-housing

Q: Please indicate how well each of the following statements describes your view of programmatic in-housing.	% Who Selected "Describes Well"		
	Total	Advertising Agency	All Others
The biggest challenge to in-housing is the cost of attracting and retaining the right talent	58.0%	59.0%	56.3%*
The main benefit of in-housing is that marketers have control over first party data	53.9%	52.5%	56.3%*
In-house talent will ultimately not be able to stay abreast of the latest developments in ad tech	41.1%	43.2%	37.5%*
Some programmatic functions belong in-house so that agencies can focus more on strategy and less on programmatic trading	39.3%	34.5%	47.5%*
In-housing facilitates relationships between marketers and publishers and the creation of custom content	30.6%	24.5%	41.3%*

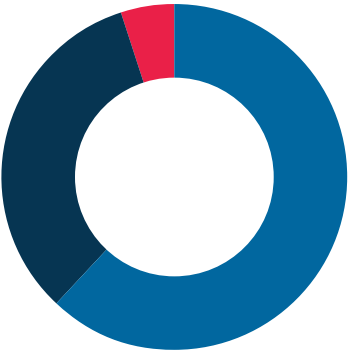
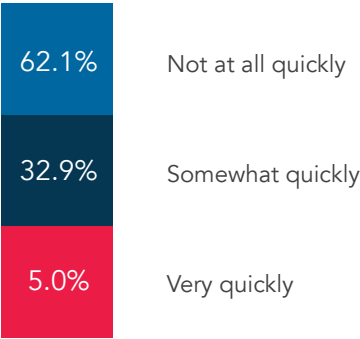
*Directional only due to small cell size

To open this section of the report, let's look at how quickly the respondents estimate that "the TV networks will move all of their inventory to automated planning and buying structures." In the qualitative study, one of the key themes is that the future of programmatic is all media including TV. That belief and aspiration was common across the ecosystem. In-market, there is noise and speculation that it will be very fast, but there are also those who voice the belief that it will be quite slow. According to

this survey, the pace will be slow. The majority of respondents (62.1%) estimate that the TV networks will move all of their inventory to automated planning and buying infrastructures "not at all quickly." Approximately one third estimate this will happen "somewhat quickly" (32.9%). This is another indicator of just how much noise there is in the marketplace about TV going digital.

Table 9: Estimated Speed of TV Network Movement of Inventory to Automated Planning and Buying

Q: How quickly do you estimate that the TV networks will move all of their inventory to automated planning and buying infrastructures?



TV network inventory may not be moving to programmatic infrastructures very quickly, but certainly there is awareness of nuances in the video market and new nomenclature for video content and inventory that is watched on TV screens. The qualitative study found that there is interest and use of various types of TV and video ad inventory. Today's TV landscape can be confusing, and the study measured that, as well as other perceptions. Second to majority agreement (76.7%) that there is "a lot of confusion regarding the difference between addressable TV, OTT, CTV" is the opinion that the largest TV and video companies will ultimately create their own walled gardens, and that is shared by two thirds of respondents (68%). There is two thirds agreement (66.2%) that all channels and types of TV advertising have to be fully integrated into auto-

mated buying for the ad market to be fully digital. Directionally, the senior-most executives in the survey exhibit even higher levels of agreement with the statements noted.

These findings substantiate and amplify the qualitative study. They indicate that the marketplace needs to be educated on the "flavors" of TV advertising and the uses of the different types of "TV" inventory. At what may be a pivotal moment in the evolution of TV advertising, this educational effort is especially important.

Despite the overall desire for transparency and for access to current walled gardens, the respondents have little faith that automation of TV advertising will not become a world of walled gardens.

Table 10: Perceptions of Changing TV Landscape

Q: The “TV” landscape is rapidly changing—some linear TV ad inventory, as well as OTT, CTV, and addressable TV is purchased through programmatic means. Please tell us how much you agree or disagree with the following statements.	% Who Agree		
	Total	C-Level + MD/ GM + EVP	All Others
There is a lot of confusion regarding the difference between addressable TV, OTT, CTV.	76.7%	87.3%*	73.2%
The largest TV and video companies will ultimately create their own walled gardens.	68.0%	76.4%*	65.2%
Without all the channels/types of TV advertising being fully integrated into automated buying infrastructures, the ad market will not be fully digital.	66.2%	70.9%*	64.6%
Linear TV ads are now available with enriched targeting that enables matching to digital audience.	37.9%	41.8%*	36.6%
Programmatic TV is just like digital advertising programmatic.	31.1%	38.2%*	28.7%*

*Directional only due to small cell size

Investments in Talent and Technology

The qualitative research indicated that roles and responsibilities across the ecosystem are shifting and:

- new talent and technology needs are regularly emerging,
- marketing and media budgets are being used by advertisers to fund technology and talent, and
- advertisers are increasingly moving to first-party data control and tech-stack development.

To quantify what was discussed in the one-on-one interviews, the study measured the value of several investment areas to business today.

Respondents were asked to indicate the value of each item on a list of eight investment areas using a three-point scale: high, medium, and low value.

Only one item, dynamic creative optimization (DCO), was selected by fewer than 40% as having high value. Still, more than a third (35.6%) reported that it has high value to their businesses. This is likely related to the sense that the data inputs and automated capabilities needed for true DCO are still seen as inadequate.

Table 11: Value of Investments in Talent and Technology

Q: Following is a list of investments in talent and technology that contribute to successful programmatic and automated advertising execution. Please indicate how much value each item contributes to your business.	% Selecting			
Investment	High Value	Medium Value	Low Value	Don't Know
Data scientists	66.2%	24.2%	5.9%*	3.7%*
Fraud prevention	64.4%	26.9%	5.5%*	3.2%*
Brand safety tools	63.9%	27.9%	5.5%*	2.7%*
Ad verification	57.1%	33.8%	6.4%*	2.7%*
Resource growth to advance tech stack	54.8%	32.4%	5.5%*	7.3%*
Tech talent including engineering/IT/ops	53.9%	32.4%	9.6%*	4.1%*
Testing tech	42.9%	41.6%	10.5%*	5.0%*
Dynamic creative optimization (DCO)	35.6%	45.7%	14.6%*	4.1%*

*Directional only due to small cell size

The high value (50%+) assigned to six of the eight items is indicative of a growing understanding that there is a cost associated with deriving value from programmatic advertising and automation, again pointing to an unfolding new narrative. This does

not mean that there are no longer transparency issues to resolve, but it may be related to the perception of gradually increasing transparency in the market.

Investments in Data and Measurement

Similar to the question on investments in talent and technology, respondents were asked to assess the value to their businesses of a list of data and measurement investments. More than three quarters placed high value on first-party data (78.5%) and attribution (71.7%). The next set of investments as ranked by respondents who place high value on them are viewability measurement (54.3%) and investments in analytics software (54.1%).

The strength of the high value assessment for first-party data and attribution is of such an order of

magnitude that it surpasses fraud prevention, brand safety tools, and ad verification.

The findings here are consistent with the overarching theme of data, data, and more data. Despite or perhaps because of the mounting recognition that data quality is a challenge, there is a premium placed on attribution. Is this a sign that demand will grow for more data oversight? Or is it simply an expression of a deep need to substantiate the value of marketing and advertising spend?

Table 12: Value Driven by Data and Measurement

<p>Q: Following is a list of investments in data and measurement that contribute to successful programmatic and automated advertising execution. Please indicate how much value each item contributes to your business.</p>	% Selecting			
	High Value	Medium Value	Low Value	Don't Know
First-party data	78.5%	14.2%*	3.2%*	4.1%*
Attribution	71.7%	22.4%*	2.7%*	3.2%*
Viewability measurement	54.3%	37.4%	6.4%*	1.9%*
Investments in analytics software	53.9%	35.2%	5.9%*	5.0%*
Investments in data management platforms (such as PMPs, CDPs, CMPs)	45.2%	38.4%	10.0%*	6.4%
Third-party data	38.8%	36.5%	21.0%*	3.7%
Second-party data	34.7%	48.9%	11.4%*	5.0%

*Directional only due to small cell size

Top Priority in the Next Three Years

The measurement of the top priority for marketing and advertising automation in the next three years is designed to provide a quantitative indicator of where the market seeks to move. By doing so, it is possible to analyze this measure against the backdrop of the rest of the research and begin to develop a roadmap for future direction(s) for marketing and advertising automation.

As expected, there is no single dominant choice. There are two selections that clearly take precedence over the third of three possible priorities measured. The two statistically comparable top choices for number one priority both focus on the ability to improve and enhance outcomes of marketing and advertising automation. Both suggest a different path and focus on different elements in that process. The third place item chosen for the top priority calls for the use of automation to capture and resolve supply chain issues. Directionally, this last item is designated a number one priority by more respondents who are not agency executives than by those who are.

As the table below displays, roughly 40% of the total respondents chose “A fully automated methodology that flags inventory for purchase based on predetermined audience and ROI criteria,” and another nearly equal proportion of respondents selected “Higher levels of automation like AI to enable optimized activation across all marketing touchpoints.” In the case of the former, the best outcome for inventory purchase, defined as predetermined audience and ROI criteria, is the priority; in the case of the latter, there is a desire for decisioning to optimize across all marketing touchpoints, which is a more holistic use of automation.

Both of these choices for top priority entail work on business models, data quality, deployment of talent (especially data scientists), and interoperable data flows. Fundamentally, ROI for inventory purchase is nearly as complex, given the current state of ROI methodologies and the typical need for ROI for purchased inventory to be part of a broader marketing plan.

Directionally, among those who are not at advertising agencies, the choices are more evenly split and evidence a stronger priority for effectively applying automation to capture and resolve supply chain issues than for those who are at agencies.

Table 13: #1 Priority for Marketing and Advertising Automation in the Next Three Years

	% Selected as #1 Priority		
	Total	Advertising Agency	All Others
A fully automated methodology that flags inventory for purchase based on predetermined audience and ROI criteria.	41.1%	43.9%	36.3%*
Higher levels of automation like AI to enable optimized activation across all marketing touchpoints.	37.9%	42.4%	30.0%*
The effective application of automation to capture and resolve supply chain issues.	18.3%*	12.2%*	28.8%*
Other	2.7%	1.4%	5.0%*

*Directional only due to small cell size

Implications

Fulfilling the promise: All media are fully automated with interoperable processes

The findings support the conclusion that the market is at an inflection point. The as-yet unfulfilled promise of programmatic may be on the threshold of realization. Either there will be more and better data, data science, and data-driven marketing and advertising automation altering the very nature of marketing and advertising, or the present state of strong incremental growth in programmatic advertising will continue. The drivers of change will be fuller automation, the “platformization” of all media including TV, and greater interoperability across data, technologies, and business processes.

Today, respondents believe that programmatic and automation are not the same. Respondents also believe that marketing and advertising automation encompasses two levels: elimination of manual tasks, and higher-level decisioning and data-based rules (sophisticated algorithms, machine learning, AI). Despite the clear distinction between programmatic and automation today, the view that “programmatic is the technology infrastructure that will underpin all data-driven marketing in the future” is shared by nearly two thirds of respondents (62.6%).

Data, data and data together with interoperability: New cost-value mindset around technology investments

Data and interoperability are overarching concepts in the move away from the purely transactional to the strategic possibilities of programmatic advertising and certainly of the drive to marketing automation. The ecosystem is ready to think in terms of value associated with opportunity costs of doing

business. There is growing understanding of programmatic technology and its value and, concurrently, better understanding of cost/value relationships. There is widespread belief that automation must accelerate and, with it, the power of true real-time optimization of campaigns will become a reality.

Automation, quality data and data science power the new creative paradigm

Automation powered by quality data and data science is seen as the route to delivery of hyper-relevant messages in real time. Art and science will meld together with a new non-linear storytelling paradigm. In the near future (the next three years), the agency creative function is seen as having to in-

corporate data and data science to advance beyond today's linear storytelling paradigm by nearly three quarters of the quantitative study respondents.

Embracing automated TV—and the sooner, the better

There is a readiness and desire for automated TV advertising to grow and for a future where all media are planned, bought, and reported through fully automated programmatic pipes. However, there is also great skepticism about the speed with which TV net-

works will move inventory into programmatic channels, along with a belief that there will be walled gardens in an automated TV advertising world.

Future roles of the agency: Centralized expertise, consultative services and reinventing storytelling

The evolution of marketing automation creates new opportunities for advertising agencies. Some of these opportunities are related to client in-housing. The qualitative research found that in-housing is by no means monolithic, nor is it all-or-nothing. It comes in a variety of evolving business relationship models, nor have all advertisers moved to in-housing. New opportunities for agencies as

central authoritative sources of cross-market knowledge and expertise include consultative services around technology and data vendors; leveraging data and data science to manage cross-platform marketing; and reinventing the creative paradigm through melding art and science.

The Path Forward

Armed with a thoughtful and detailed look at programmatic advertising and automation across the ecosystem, there is a solid basis for envisioning a path forward that adds further value to all constituents.

To be sure, there are challenges to overcome along the path to marketing and advertising automation, and even if the market continues its present trajectory, challenges remain. The research indicates that there is some consensus around priorities for improvements in the near term.

The needs and challenges of the marketplace can be addressed in the next two to three years by focusing on:

- workflow technology that eliminates manual interference in programmatic transactions and in tracking and reporting campaigns;
- identity resolution with priority on true reach and frequency management and to enable greater accuracy in delivering people in target audiences, not devices;
- improved data quality and interoperability of both data and data delivery systems;
- accelerated application of more sophisticated algorithms, machine learning and AI to
 - enable hyper-relevant messaging in real time and thus achieve the potential of programmatic and DCO,
 - develop a fully automated methodology for identifying ad inventory based on predetermined audience and ROI criteria, and
 - enable optimized activation across all marketing touchpoints;
- better education around the changing video advertising marketplace with an emphasis on clarity of terms like addressable, OTT, and CTV and the meaning of automation of linear TV advertising; and
- full transparency of the costs of deploying technology and data solutions to prevent fraud, ensure brand safety, measure attribution and viewability, etc. This will focus the industry on cost-value relationships of programmatic technology and automation.

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The 4A's helps empower our members to deliver insightful creativity that drives commerce and influences culture, all while moving the industry forward. We are dedicated to, and vested in, our members' success, just as they are dedicated to helping brands create, distribute, and measure effective and insightful advertising and marketing. We provide community, leadership, advocacy, guidance and best-in-class training that enable agencies to innovate, evolve and grow. In 1917, the 4A's was established to promote, advance and defend the interests of our member agencies, their employees and the industry at large. After 100 years we continue to support the evolving needs of our community. Today the organization serves 600+ member agencies across 1,200 offices, which control more than 85% of total U.S. advertising spend. 4A's Benefits division insures more than 160,000 employees and its D.C. office advocates for policies that best support a thriving advertising industry. The 4A's Foundation fuels a robust diversity pipeline of talent for its members and the marketing and media industry, fostering the next generation of leaders.

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For more information on the initiative, contact media@4as.org

For more information on the research or data, contact info@614group.com



5 Bryant Park
New York, NY 10018
+1 212.682.2500
www.4as.org

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