AN EVOLVING FRAMEWORK FOR ADVERTISING AUTOMATION

MOTIVATION AND GOALS

The term "programmatic" describes the application of data and software to automate digital advertising, and has become shorthand for a diverse and evolving range of platforms, tools, and processes. With automated technologies now the de facto means of executing digital advertising investments, discerning the specific roles and utility of these technologies is critical to ensuring effective functioning of the marketplace.

Instead of relying on the false dichotomy of defining overall buying and selling *practices* as "programmatic" or not, IAB proposes a framework rooted in the digital supply chain *processes* that can (or cannot) be automated. The aim is to provide a common vocabulary and structure to:

- Facilitate meaningful conversations among buyers, sellers, and vendors.
- Support consistent benchmarking of marketplace sizing, investment, and attitudes.
- Promote informed evaluation, negotiation, and activation related to the platforms and tools that enable advertising effectiveness and good user experiences.

PROCESSES AND PLATFORMS INVOLVED IN ADVERTISING AUTOMATION

On page 3 is an overview of the core buying and selling processes and tasks affected by automation, alongside key supporting platforms and data services. For context:

- Tools have long supported the buying and selling digital and non-digital media. Over time, these tools have become much faster, more sophisticated, and dramatically scaled – particularly following the advent of exchange-based digital advertising markets.
- Automation does not consistently make buying or selling inventory less time-intensive. Many have argued that automation has increased supply chain complexity, introducing new operational and human resource burdens. However, most organizations do realize net efficiency and performance gains by shifting people to higher-value tasks (i.e., spending more time on campaign optimization instead of planning and setup).
- Human involvement with each process currently tends to be higher where there are many technology solutions that need to be integrated and benefit from manual inputs and analysis.

KEY CONCEPTS TO CONSIDER AS AUTOMATION EVOLVES

As automated platforms and tools continue to reshape buying and selling processes, they also shift the industry's focus towards higher-utility tasks and marketplace opportunities that haven't received or didn't require as much attention. Below are several areas increasingly receiving scrutiny:

- **TRANSPARENCY –** The large number of intermediaries in the digital supply chain has widened the distance between advertisers and the publisher inventory that they are buying, fueling concern about marketplace transparency. Understanding and evaluating the spectrum of distinct processes, platforms, and services that can contribute to automation should increase visibility into each of these areas, and being cognizant of costs should inform where efficiency can and can't be achieved.
  - ***Processes, Platforms, and Services*** – In addition to processes affected by automation, and the platforms and data that enable automation, dedicated consulting or service models represent another form of supply chain intermediary. Known colloquially as "managed services", these offerings are frequently provided by technology platforms themselves or by programmatic specialist groups. They are intended to help advertisers and publishers navigate supply chain processes, operate programmatic tools, and incorporate data-driven strategies into their broader marketing plans. For more information about managed service options, please refer to The Programmatic Supply Chain: Deconstructing the Anatomy of a Programmatic CPM.
  - ***Transaction Costs and Fees*** – Ongoing assessment of marketing strategies and technology platforms is crucial to achieving business goals. Unfortunately, this evaluation can be challenging because individual technologies can be involved in multiple supply chain functions. For example, verification platforms can inform multiple processes within programmatic executions, including forecasting, decisioning, and reporting. DSPs (demand-side platforms) and SSPs (supply-side platforms) can be involved in a disproportionate number of functions, depending on implementation. Understanding the cost models and fees associated with automated technologies, and the specific functionality that these technologies enable, allows practitioners to better determine value relative to their

needs. IAB's Fee Transparency Calculator helps break out and organize the absolute and relative (% of CPM) costs of technologies, given a media plan's parameters and a list of associated vendors. This provides a lens through which to evaluate overall budgetary impact of adding, removing, or changing technology solutions.

- **DATA QUALITY & IDENTITY RESOLUTION –** With the introduction of exchange-based marketplaces and the ability to evaluate and bid on impressions in real time, the types and quality of audience data used to evaluate bidding opportunities became increasingly scrutinized. Syndicated audience data – used to identify consumer demographics, behaviors, or in-market intent – is often based on proprietary collection methodologies that obscure data source, segmentation criteria, refresh frequency, and more. This complicates comparison of collection and organization methodologies between competitive syndicated data providers.

  The complexity of assessing data quality is compounded by the challenge of identifying a unique individual across devices and walled gardens. While separate user-level device graphs are available, data collection methodologies and scale are often ambiguous and matching disparate user data is challenging. Ensuring the rigor of identity resolution practices and the quality of corresponding audience data is foundational to many marketplace activities – including cross-screen reach/frequency management, measurement, multi-touch attribution, targeting accuracy, and overall consumer experience and privacy.

  For more information about data generation systems and segmentation techniques, please refer to the IAB document Data Segments & Techniques Lexicon. Additional information about identity and user-level device mapping can be found in IAB's Digital Attribution Primer 2.0.

- **INVENTORY QUALITY –** The concept of advertising inventory quality has long been discussed in the context of the production value of the surrounding content or service. The "premium" nature of a brand, content, service, or audience is often used as a proxy for the degree to which a user's attention can be captured by an impression opportunity, absent direct engagement measurement from an independent source. However, in a media landscape with a vast array of signals available to evaluate impression opportunities based on their likelihood to produce marketing outcomes, automated technologies have increasingly judged inventory quality relative to the advertiser's specific goals and KPIs, based on the advertiser's performance data and not by a human assessment of the publisher's value and user experience. As a result, what is considered "quality" inventory to one advertiser could be considered worthless to another, even if it is considered to have "premium" production value. While brand equity and production value can often be conveyed via URL or video player-size variables that are passed along with publishers' bid requests, these are just a few inputs among dozens that should be decisioned against to paint a holistic picture of inventory quality. It's worth noting that an ad's opportunity to be viewed by a human – captured by viewability and verification platforms – is another of the many criteria for determining quality, since ad exposure is a prerequisite to influencing consumer behavior. The Media Rating Council (MRC) provides more information about desktop and mobile viewability and measurement guidelines.

- **BRAND SAFETY –** Automated platforms have facilitated a large increase in the variety of publisher inventory options available to buyers, but have also increased supply chain complexity. This has made it difficult for buyers to meaningfully ensure that their ads won't appear alongside salacious, violent, or other controversial material that is undesirable for their brands. Technologies and strategies to measure and control brand safety have quickly become a central component to media planning and publisher editorial strategy. This includes the use of verification platforms to evaluate inventory via pre-bid signals, an emphasis on continuous whitelisting of trusted publishers and blacklisting of bad actors, an increased emphasis on private marketplaces, and publisher and sell-side platform sales strategies intended to address content quality explicitly. Private marketplaces in particular have gained significant traction. More information about private marketplace structures can be found in the IAB document Programmatic and Automation – The Publishers Perspective, while key negotiation points between buyers and sellers can be found in IAB's Programmatic Private Marketplace Checklist. It's important to note that reacting to brand safety concerns by overly restricting supply access to a small number of trusted sources (via private marketplaces or direct publisher integrations) can limit access to scalable, quality open exchange inventory that can often uncover unique performance pockets and campaign intelligence. As a result, most practitioners use a combination of active supply management and performance/quality signal analysis.

- **AD EFFECTIVENESS & MARKETING INTELLIGENCE** – Insights gleaned from decisioning signals – including audience, creative, content, geography, time/day, recency –

BUYERS

PURPOSE

PLAN	DECISION	TRANSACT	DELIVER	OPTIMIZE
Determine audiences, channels/inventory (publishers, screens, formats), deal structures (open, private), success metrics, and measurement and optimization strategies best suited to marketing objectives.	Establish bid strategy and refine via mid-flight signals (user identity, device type, audience profiles, geography, day/time, frequency, recency, viewability, brand safety) to determine whether and how much to bid on impressions.	Record key components of transaction – if buyer wins impression – so DSP can invoice advertiser for payment of inventory, technology, and data costs associated with purchase.	Retrieve and deliver best ad for specific user/inventory, along with tracking technologies. May include optimization of creative elements (imagery, call to action, copy, destination) to align with user characteristics known in advance and/or included in bid request.	Identify components of campaign that perform best (channels, inventory, audiences, creative) and invest remaining budget to maximize performance. Analyze high/low-performance pockets and why they do/don't support initial assumptions.

TASKS

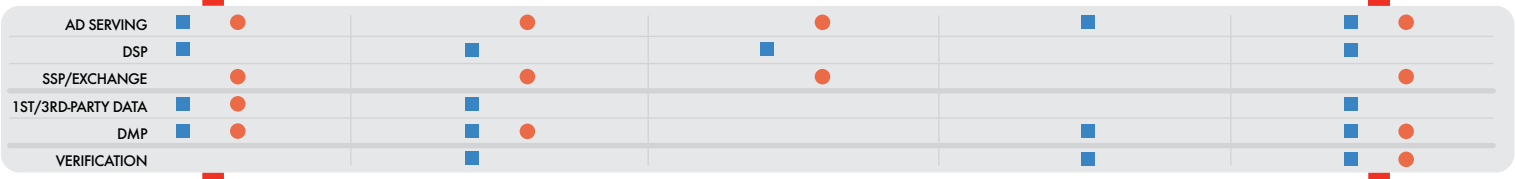
PLAN	DECISION	TRANSACT	DELIVER	OPTIMIZE

• KPI definition
• Data enrichment
• Audience segmentation
• Supply strategy & forecasting
• Supply deal negotiation
• Measurement strategy
• Optimization approach
• Creative development
• Site/Creative tagging
	• Bid strategy development:
	  • Targeting
	  • Deal structures (open, private)
	  • Quality signals
	  • Pricing (fixed, dynamic)
	  • Optimization inputs
	  • Scale/QPS management
	• Reach, frequency, recency management
		• Bid response delivery
		• Win & cost notification
			• Dynamic creative optimization (DCO)
			• Personalization
			• Creative delivery
			• Attachment of tracking technologies for impression counting, inventory reporting, sequencing support, etc.
				• Assembly of impressions, engagements, events within path to conversion
				• Assigning credit to campaign touchpoints, considering correlation/causation
				• Pacing & performance evaluation
				• Budget reallocation

UNREALIZED AUTOMATION

PROCESS

PLAN → DECISION → TRANSACT → DELIVER → OPTIMIZE



PURPOSE

PLAN	DECISION	TRANSACT	DELIVER	OPTIMIZE
Determine channels and inventory to be monetized, inventory structure and pricing, and measurement strategy best suited to optimal, sustainable revenue and yield.	Evaluate which buyers and creatives are best given available market pricing and publisher's expectations for editorial and user experience; declare winning advertiser.	Record transaction within the SSP/exchange environment so publisher can be invoiced for technology/other costs and can be paid for their inventory.	Receive winning advertiser's creative unit and load/render it with associated tracking technologies.	Identify which advertisers won impressions and for how much, attributes of audience reached, mix of associated content. Analyze high/low yield pockets and why they do/don't support initial inventory packaging/pricing assumptions.

TASKS

PLAN	DECISION	TRANSACT	DELIVER	OPTIMIZE
• KPI definition • Data enrichment • Audience segmentation • Supply forecasting • Supply packaging/pricing, incl. header bidding • Supply deal negotiation • Optimization approach • Site tagging	• Bid request • Waterfall execution (if applicable) • Winning bid determination (by SSP/exchange)	• Win & revenue notification • Impression counting	• Load timeout management • Creative tagging • Creative rendering (native ads)	• Inventory/Content valuation (viewability, fraud) • Audience valuation • Buyer/Bidder valuation

SELLERS

can inform pricing/valuation for individual impressions, and can also be aggregated over time into consumer behavior and media consumption patterns for the brand or product being advertised. These platform insights are primarily used to measure and optimize in-flight advertising effectiveness, but they can also confirm or contradict an advertiser's initial campaign assumptions. For example, market research may have led an advertiser to believe that its core customers are women 35-54 in the Pacific Northwest, who tend to purchase the product in physical retail locations on nights and weekends. After launching a media plan, media platform data may instead indicate that most buyers are women aged 25-34; that Kansas City, Boston, and San Francisco index highest for conversions; and that most purchases happen online on weekday mornings. Not only does this data allow the advertiser to reallocate ad spend to the most efficient audiences, geographies, days and times (in both online and offline channels), but it also informs conversations about product features, packaging, and distribution.

- **USER EXPERIENCE –** While automated platforms have provided buyers and sellers with features to ensure relevant consumer ad experiences, fluency with and application of these capabilities has lagged. When buyers and sellers operate without best practices, user experience suffers, and the result has been rapid consumer adoption of ad blocking tools. Typical consumer motivation for blocking ads includes slow page load times, intrusive ad units, data costs, and repeated exposure to irrelevant ads. The pressure ad blocking places on publisher monetization models threatens a free and open internet, and it is ultimately the responsibility of both buyers and sellers to remedy.
    - Buyers tend to focus on control of reach/frequency/recency, judicious use of 3rd-party tracking, use of decisioning tools to ensure targeted and relevant ads, avoidance of invasive ads, and production of high-quality creative.
    - Sellers tend to focus on production of quality content and services, design aesthetics, balancing ratio of editorial to ad content, reducing page load times, and sourcing standards and controls for additional inventory.

For more information about user experience, ad blocking, and IAB Tech Lab programs intended to combat poor user experience, please refer to the IAB Tech Lab Solutions page on IAB.com.

- **ORGANIZATIONAL ALIGNMENT & STAFFING –** The data being generated by media platforms has forced sellers and buyers to revisit their internal workflows, team structures and go-to-market strategies. Data is now at the center of decision-making in all functions and at all management levels. The extent and types of changes within media organizations tend to follow patterns depending on whether it is buy- or sell-side focused:
    - Buy-side structural changes have been most visible, with reorganizations announced at many major holding companies. These are generally intended to move technology and data expertise further upstream in the planning process, whereas historically specialists would be consulted only **after** market research teams and communications strategists developed audience and consumer behavior/purchase profiles.
    - On the sell-side, changes to organizational structures often manifest in the merging of sales and operations structures for direct and "programmatic" channels, and making sure this merging will result in measurable yield and inventory performance improvements. Corresponding data analysis can inform (private vs. open) marketplace strategies/tactics, agency relationships, and approaches to packaging and sales of inventory that can't yet be sold via automated channels.

As a byproduct of evolving go-to-market approaches, many buyer and seller skillsets are also becoming more valuable inside data-centric organizations. For more information on how data is redefining organizational effectiveness, please review The Data Centric Organization study, as well as IAB's Data Maturity Model for Digital Advertising.

AUTOMATION AND INDUSTRY GROWTH

Despite the complexity of today's digital supply chain, automation will continue to refine buying and selling processes and shift attention to higher-value marketing and advertising functions. Automated platforms and services can continue to drive industry growth through increasingly relevant and effective advertising, flexible publisher monetization opportunities, and enhanced consumer experiences. IAB hopes this document provides a helpful framework to evaluate the central role that automation and data play in shaping marketplace functioning, buy-side and sell-side alignment, and broader digital advertising trends.

FOR MORE INFORMATION AND ACCESS TO REFERENCED IAB DOCUMENTS CONTACT
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