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**U.S. Report  
Programmatic In-Housing:**  
Current Environment and the Impact of Regulation

August, 2020

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## Acknowledgements

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## About US



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

Working with its member companies, IAB develops technical standards and best practices, and fields critical research on interactive advertising, while educating brands, agencies, and the wider business community on the importance of digital marketing. The organization is committed to professional development by elevating the knowledge, skills, expertise, and diversity of the workforce across the industry. IAB advocates for its members and promotes the value of the interactive advertising industry to legislators and policymakers through the work of its public policy office in Washington, D.C.

Founded in 1996, IAB is headquartered in New York City and has a West Coast office in San Francisco.

## About Our Sponsors



The IAB Programmatic+Data Center is a unit within IAB, founded to enhance existing IAB resources, and to drive the data agenda for the digital media, marketing, and advertising industry. The Programmatic+Data Center's mission is to expand the programmatic universe, increase the understanding of how data drives business, and make them easily accessible to all.

IAB Programmatic+Data Center is focused on:

- Gathering industry thought leaders to drive and set the data agenda
- Funding industry research to provide benchmarks and actionable insights on data management across platforms including programmatic, mobile, and the internet of things
- Developing industry best practices, guidelines, and standards for privacy, data security, measurement, and consumer data protection
- Creating educational materials including certification, infographics, videos, webinars, and seminars to demystify data for marketers and advertisers
- Hosting data-focused events that feature industry luminaries discussing data related topics

## Accenture Interactive

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## What is the purpose of this report?

Programmatic advertising has become a key element in most digital ad budgets for its scale and efficiency in targeting and placing digital advertising. As a result, more brands are bringing the management of programmatic in-house. This shift is changing the role that brands and agencies play in this arena and the structure of how they are managed.

With programmatic's rise, the IAB Programmatic+Data Center aims to help inform its clients how programmatic is evolving the digital media landscape. The purpose of this whitepaper is to discuss the role that programmatic plays in the broader digital media ecosystem and how it is evolving, especially with the changing regulatory environment around data privacy. The insights from this whitepaper were gleaned from a variety of sources, including interviews with subject matter experts, a quantitative IAB survey, and additional secondary research from industry leaders.

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## Executive Summary

- Programmatic advertising has been on a meteoric rise and is expected to reach \$98B in ad spend by 2021, which will account for 68% of digital media advertising.<sup>1</sup> The U.S. accounts for the vast majority of programmatic spend across the globe and remains poised for growth.
- Across devices, mobile is projected to account for over 83% of programmatic digital display ad spend;<sup>2</sup> Connected TV (CTV) is also growing in prominence and will continue to rise with video content becoming ubiquitous.
- Brands desire more control over programmatic, and we are seeing a trend towards brands in-housing some or all of this function. The majority of brands have moved *some* function of programmatic buying in-house. Almost a fifth of brands have completely moved this function in-house, and over half have partially moved programmatic buying in-house.
  - In-housing of programmatic allows brands more transparency, which allows for better return on investment (ROI) attribution, cost efficiency, and campaign effectiveness.
- Within brand organizations that have brought their programmatic in-house, most are taking a hybrid approach and partnering with an agency on some elements of the operation. A majority of these organizations are either currently working with or would consider working with a partner to execute most functions of programmatic buying.
- Given the complexity of programmatic, there is one issue that brands, agencies, and tech providers share concern over, and that is the recruiting, training and retention of talent. Programmatic talent will remain in high demand for the foreseeable future.
- The General Data Protection Regulation (GDPR) was implemented in the EU in May of 2018, followed by the California Consumer Privacy Act (CCPA) in January of 2020, with more states following suit. Accessing consumer data is paramount to programmatic advertising, so adhering to these regulations remains a focus for brands and their partners.
  - By and large, organizations are supportive of a stricter regulatory environment. However, the guidelines are nebulous, and most organizations are struggling with what constitutes compliance.
- While there were concerns that regulations would negatively impact consumer trust for brands and limit brand profitability, those concerns have been largely unfounded. In fact, an unexpected benefit of regulations is that brands are now working with cleaner data. While regulations have culled down the number of customers who can be targeted, those that remain are more relevant and interested, resulting in a more effective ad spend.

1 Zenith Programmatic Marketing Forecasts 2019 Report

2 Pubmatic 2020 Global Digital Ad Trends Report

- The regulatory environment continues to evolve, but the anticipated limit or disappearance of cookies and third-party data magnifies the need for companies to manage their own first-party data. Thus, the ability to implement effective programmatic advertising hinges on an organization's ability to obtain and manage their customer's data.
- The digital ecosystem is constantly evolving through innovation and technological advancements, which will create new opportunities and needs within programmatic, both for brands and agencies.
- The COVID-19 pandemic has impacted brands across the world, with many limiting or shutting down operations. As a result, short-term spend on advertising has decreased and/or been repurposed, though it is unclear what impact, if any, this pandemic may have on long-term advertising.
  - Some struggling brands, like those in hospitality or travel, have almost eliminated advertising. Others that are still operating, like grocers, Consumer Packaged Goods (CPGs), and telecommunications, are creating more relevant ads to reflect the current environment.



## Defining Programmatic Media Buying

Programmatic allows a brand to target consumers, tailor messaging, and purchase relevant ad space more effectively by leveraging data in an automated process. For instance, an ad for swimwear being served to a 19-year-old female college freshman three weeks before Spring Break, while reading her favorite beauty blog.

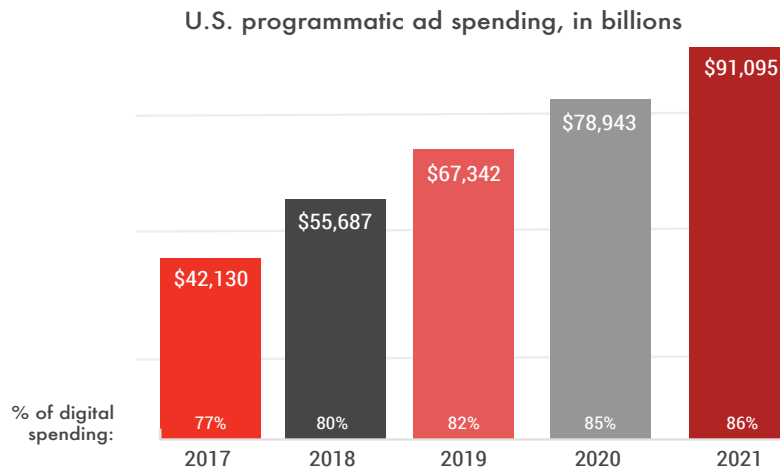
Programmatic media has had a relatively brief history. It all started with the banner ad, which ushered in the advent of ad servers, which begot ad networks, Real-Time Bidding (RTB) ad exchanges, and ultimately, programmatic. It is staggering to see how much more effective ad targeting has become in a span of 20 years.

Programmatic allows brands to market to different audiences by segmenting across categories like age, gender and geography, and behaviors like media consumption. As different segments are identified, a brand can then tailor messaging for that particular segment while sending differentiated and relevant messages to particular groups simultaneously. All of this is executed algorithmically through an automated process, which means that it is done in real time without relying on human touch. As a result, brands are only paying for relevant ad content, delivered to the right people at the right time—which results in a more efficient and effective ad spend. One digital executive described programmatic as, “buying against a target, not buying content or properties. It’s a target we can measure and then quantify the impact.” It is no wonder that brands have turned to programmatic media buying over the traditional “spray and pray” approach—where brands cast a wide net and hope for the best as consumers are developing stronger online habits, like doing more shopping online.

## The Growth of Programmatic

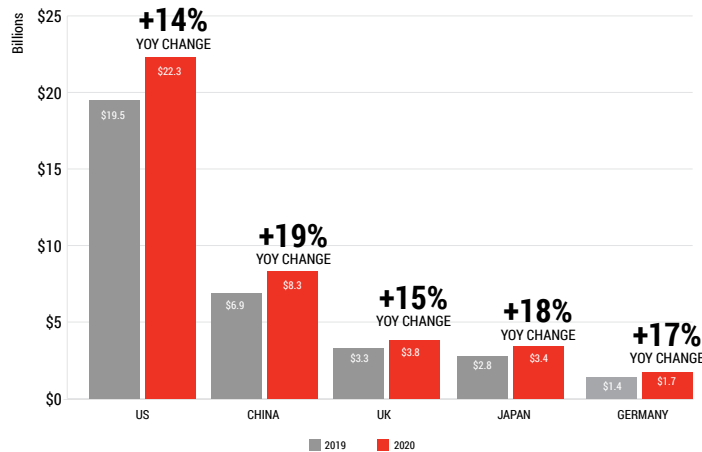
The terms “customer-centric,” “authenticity,” and “personalization” are perennial marketing buzz words. Everyone is trying to market to customers in a way that feels authentic and relevant. But in order to do that, we need to know about our customers—that is, we need data! As brands started to capture more and more data from their customers, they became capable of segmenting their customers into groups and developing messaging to these particular groups. With this came the need to deliver these messages in an efficient way. The old process of manually buying and placing ads limited the extent to which brands could target their communications. But with the advent of programmatic, brands were able to deliver targeted messaging to a relevant audience by automating media transactions of media via a technology platform, in real time, while reducing human error.

Programmatic has proven its value to the industry, and organizations are devoting more of their digital ad spend to it. In fact, according to the Zenith Programmatic Marketing Forecasts 2019 Report, programmatic’s share of digital ad spend in the U.S. is expected to grow to 85% this year, which is substantially higher than the global average of 68%. The total dollars spent on programmatic has seen an 87% increase in the last four years. This means that more than four of every five digital displays ad dollars is being spent programmatically. One executive described their focus on programmatic by saying, “We used to be a traditional media organization. We are now a digital-first organization. The majority of our digital ad spend is in programmatic. As long as there’s a runway, we will continue to invest in it.”



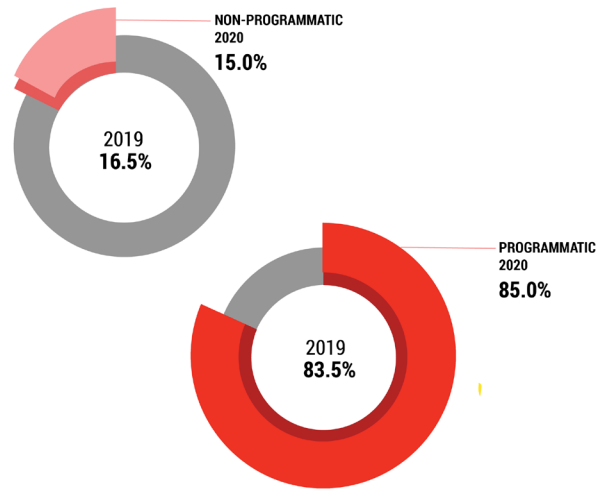
Source: IAB, proprietary research. "Brand Disruption 2020," February 2020

The U.S. accounts for the vast majority of programmatic spend worldwide. This spending is almost three times bigger than the second largest country, China. While other countries are increasing their spend at a faster clip, given the size of the U.S. a 14% increase year over year is noteworthy and demonstrates the importance that programmatic is playing in the U.S.



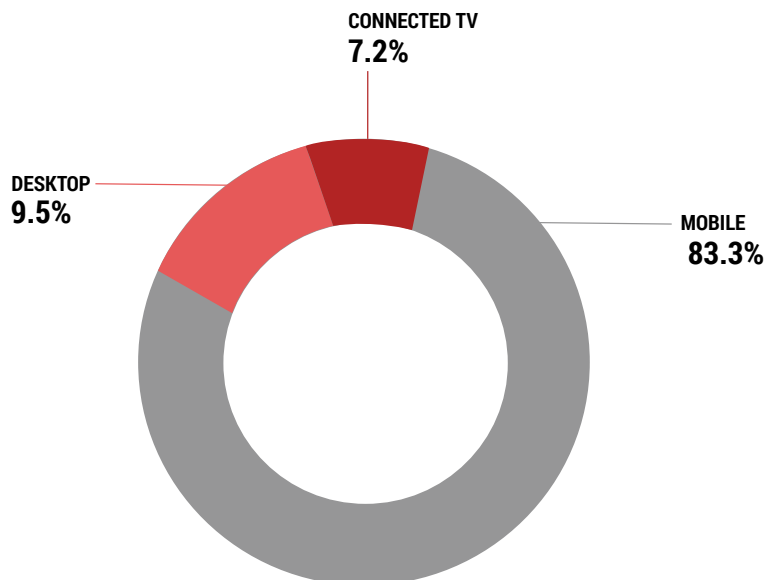
Source: <https://pubmatic.com/wp-content/uploads/2019/12/2020-Global-Digital-Ad-Trends.pdf>

The shift in spend towards programmatic is outpacing the increases in overall marketing spend, which means that programmatic is getting a bigger slice of the ad spend pie. And the medium continues to evolve; consequently, organizations must be nimble and frequently revise their approach. As one global digital executive said, "I read a lot in the press about what's going on in programmatic. I am also part of a few associations, but I still don't feel like I know of all the changes taking place."

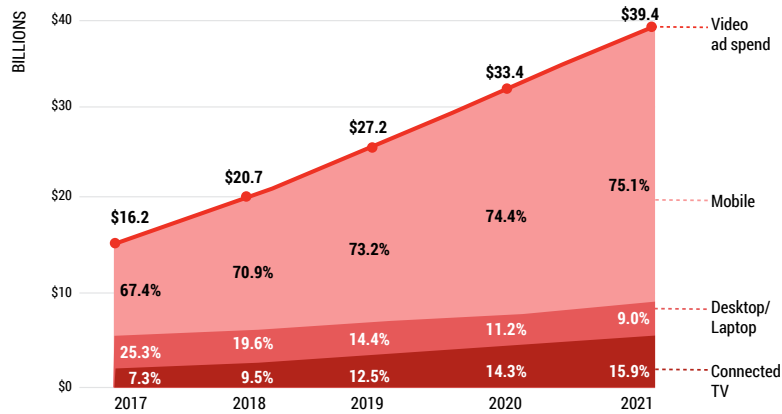


Source: <https://pubmatic.com/wp-content/uploads/2019/12/2020-Global-Digital-Ad-Trends.pdf> (eMarketer)

Programmatic continues to expand its reach by device. Today, 83% of programmatic transactions are on mobile. However, as over-the-top (OTT) services have shifted TV-watching away from cable, programmatic has grown in importance. As such, programmatic will represent a third of all TV ad revenue by 2021. Additionally, as video begins to grow in prominence across devices (which will only be bolstered by the introduction of 5G), the percentage of video ad spend allocated to CTV is expected to double to almost 16% by 2021.



Source: <https://pubmatic.com/wp-content/uploads/2019/12/2020-Global-Digital-Ad-Trends.pdf> (eMarketer)



Source: <https://pubmatics.com/wp-content/uploads/2019/12/2020-Global-Digital-Ad-Trends.pdf> (eMarketer)

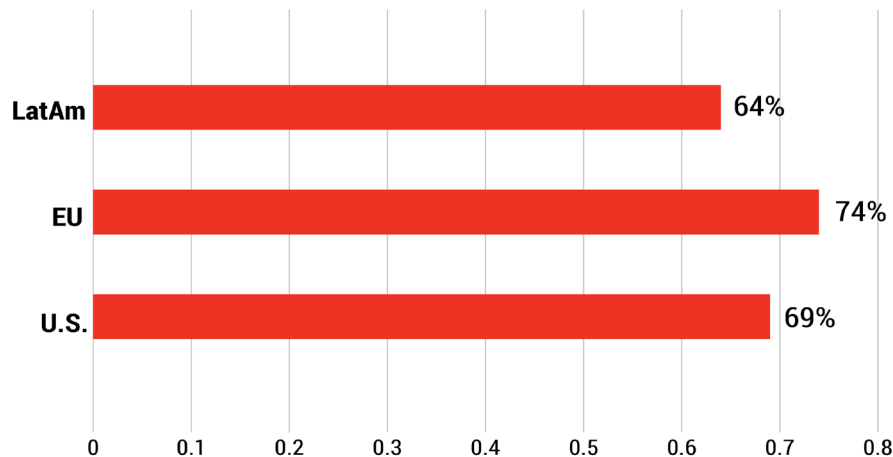
## Programmatic Media Buying Moves In-House

As the prominence of programmatic rises, more and more brands have decided to bring the capability in-house. According to a survey recently fielded by IAB, almost a fifth of U.S. brands (18%) have completely moved programmatic buying in-house, which remained unchanged from 2018. Comparing to other regions, this is on par with Latin America at 16%, though it's substantially lower than the EU where almost a third of organizations (31%) stated they have completely moved to in-house programmatic buying. More than half of U.S. brands (51%) have partially moved their programmatic buying function in-house, which is up slightly from 2018. This is similar to Latin America at 49% and slightly higher than the EU at 43%.

The extent to which U.S. organizations are bringing programmatic buying in-house	2018	2019
We have completely moved our programmatic buying functions in-house, and plan to continue the path.	18%	18%
We have partially moved our programmatic buying functions in-house, and plan to continue the path.	47%	51%
We tried or actually did bring our programmatic buying in-house but decided to outsource this function to partners.	13%	9%
We have no plans to bring programmatic buying in-house, rather rely on agencies and DSPs for our programmatic functions.	22%	22%

When we look at the aggregate of brands that have completely or partially moved their programmatic in-house, there is a global trend towards in-housing.

### Completely or Partially Moved Programmatic In-House Across Regions



### Benefits of In-Housing Programmatic

In-housing of programmatic functions allows brands to have more control over their operations and more transparency. Overall, programmatic allows for more effective targeting, which increases efficiency and effectiveness thereby providing transparency to track the ROI on campaigns. “It’s all about the data transparency, we can now track our ad placements so much better,” said one CPG executive. Within the U.S., the key objective of in-housing is ROI attribution, as noted by almost half of respondents in our recent survey. Similarly, respondents noted overall cost efficiency and campaign effectiveness as additional key benefits.

“We’re getting rid of all the waste, aggressively negotiating data deals, reducing impressions lost to fraud. All of this created a better than 50% media efficiency, which we reinvested in programmatic, which doubled our effective reach at the same investment. That has led to sales growth, so we are now pouring more money into programmatic,” mentioned another digital executive. Compared to 2018, the results stayed relatively stable, though cost efficiency and data management increased in importance, while cross-channel planning and execution decreased.

Comparing the U.S. results between 2018 and 2019, the objective of data management increased in importance, with more than a third of U.S. organizations surveyed stating this was one of their top three objectives. This is likely in part a response to data regulations like GDPR and CCPA. Additionally, the objective of cross channel planning and execution fell in importance, though this is likely the result of heightened focus on other factors, like data management as previously mentioned and cost efficiency.

Objectives of In-House Programmatic	2018	2019
ROI attribution	47%	48%
Cost efficiency	38%	43%
Campaign effectiveness	44%	42%
Better audience targeting	44%	40%
Data management	29%	36%
Real-time optimization	34%	34%
Extended audience reach	22%	27%
Cross-channel planning and execution	26%	16%

When comparing the U.S. to other regions, however, we saw that there is strong agreement on campaign effectiveness and cost efficiency being two of the top three objectives. However, there is a considerable delta between where the U.S. ranked ROI attribution (#1 objective) relative to the other regions, where it is ranked much lower for both the EU and Latin America.

**Thinking about current and past programmatic in house initiatives, what are the top three objectives?**

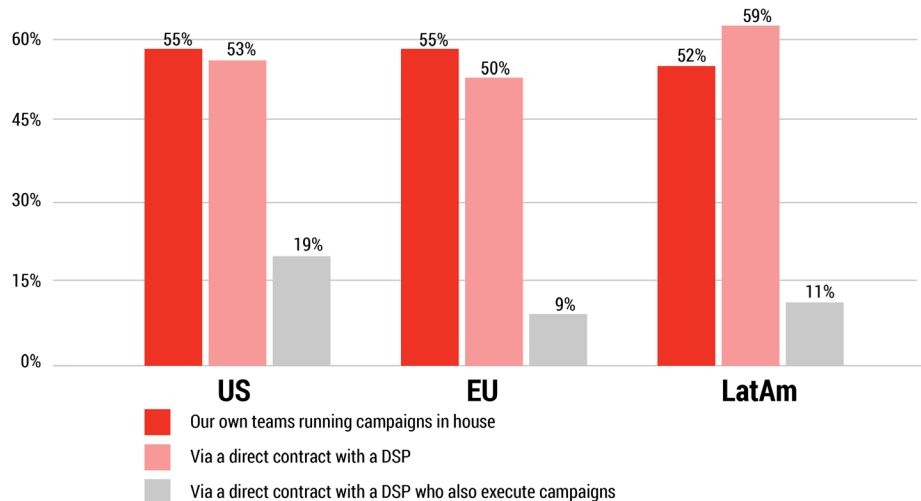
Question	U.S.	EU	LatAm	Average
Campaign effectiveness	42%	39%	44%	42%
Cost efficiency	43%	38%	44%	41%
Better audience targeting	40%	30%	31%	34%
Extended audience reach	27%	34%	30%	30%
ROI attribution	48%	18%	19%	28%
Real time optimization	34%	30%	22%	28%
Data management and data ownership	36%	22%	19%	25%
Cross channel planning and execution	16%	23%	23%	21%

While the benefits of in-housing are many, transitioning the operations to in-house is no small feat. It takes planning and a multi-phased approach, which oftentimes takes years to complete. As was commonly called out in the industry interviews we conducted, this type of transition requires buy-in across the organization and especially from top management. “We have gotten management comfortable investing [in in-housing]. It took a while but showing them the ROI through a multi-touch attribution model really drove this transformation,” a digital executive told us. It also requires flexibility, as organizations’ needs evolve, and it is only once they’ve started down this journey that an organization truly understands the requirements. “Our digital marketing platform was archaic, so we had to rebuild the tech stack from scratch. It wasn’t until we started to rebuild it that we realized we had to completely rebuild our martech and adtech to support the new platform,” a hospitality executive shared.

## Structuring In-House Programmatic Teams

Within the organizations that have brought their programmatic operations in-house, most U.S. organizations are still taking a hybrid approach and partnering with an agency on some elements of their operations. Compared to 2018, there is an increase in those running campaigns independently without an outside Demand Side Platform (DSP) or agency (55% vs. 48% in 2018), but over 50% of organizations are still contracting with a DSP for some element of their programmatic buying. As the chart below demonstrates, many organizations are employing more than one strategy for their programmatic buying. While they may have their own teams run some campaigns entirely in-house, they may also choose to work with a DSP and/or agency to execute other campaigns on their behalf. This is similar to what we're seeing globally. Across the three regions, more than 50% of organizations are saying they have their own teams running campaigns in-house and via a direct contract with a DSP.

**Executing In-House Programmatic Buying- Across Regions**

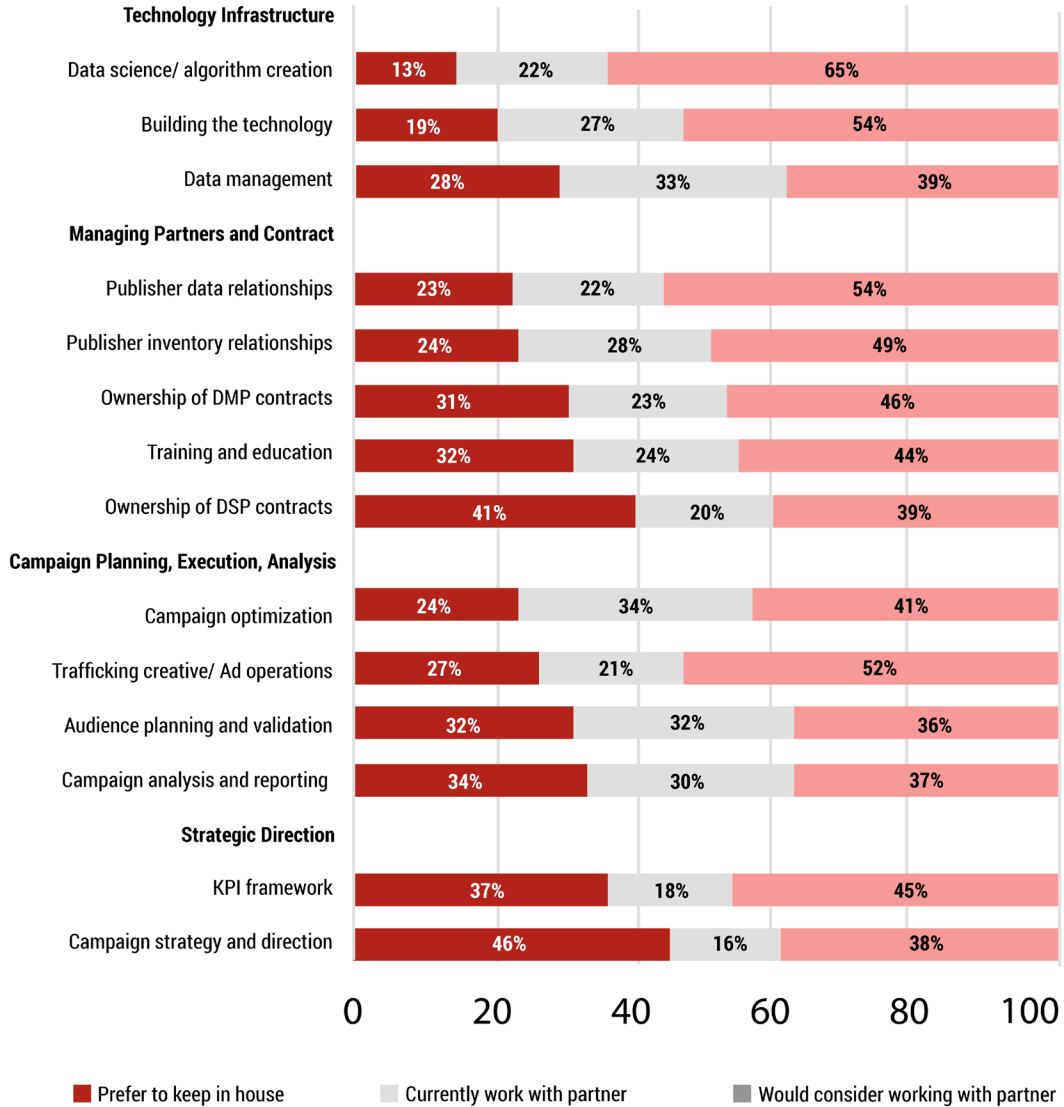


Across the board, the majority of organizations are either currently working with or would consider working with a partner to execute most functions of programmatic buying, from setting up the technology infrastructure, managing partners and contracts to planning and executing the campaign. As programmatic continues to evolve, organizations value partners who have expertise in these functions and are likely able to stay ahead of the changes better than individual brands can.

There is a stronger desire to maintain functions in-house within strategic direction, specifically in setting the campaign strategy and direction and in developing Key Performance Indicators (KPIs). It is no wonder, as these elements are going to be brand-specific and require a deep understanding of the brand strategy. Interestingly, ownership of DSP contracts is also an element that organizations are more likely to want to maintain control of in-house (41% prefer to keep in-house). This may be the result of changing data privacy regulations (like GDPR), as organizations need to monitor what data is being accessed and how it is being used.



## Programmatic Functions



Compared to 2018 results (not shown), what we found is that there was a general decrease in the percentage of respondents who preferred to manage particular functions in-house and an increase in those currently working with or considering working with a partner. While bringing functions in-house increases transparency and efficiency, the support of an outside partner remains crucial. In fact, as the recent COVID-19 pandemic has demonstrated, many brands are relying on their agencies for data analytics on modeling consumer behavior, as well as an outside perspective on how other brands are handling the pandemic. As one energy executive noted, “At first, we were asking [our agency] how to get data. Now that we have it, we are asking them for help on how to use and interpret this new data.”

The U.S., relative to other regions, appears to have a stronger desire for partner support across functions.

Programmatic Functions by Region

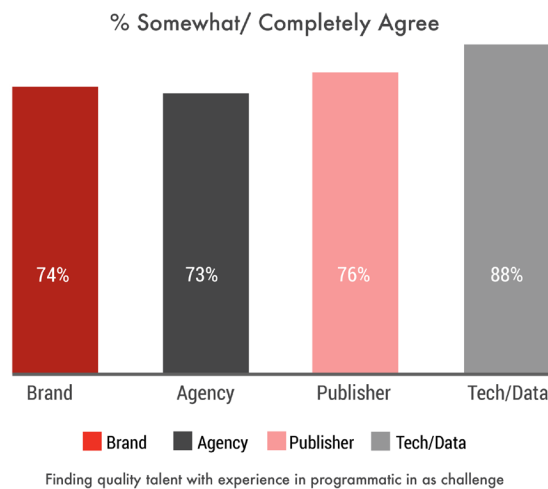
	US		EU		LatAm	
	Currently working w/ Partner	Consider working w/ Partner	Currently working w/ Partner	Consider working w/ Partner	Currently working w/ Partner	Consider working w/ Partner
<b>Technology Infrastructure</b>						
Data science / Algorithm creation	22%	65%	17%	20%	17%	21%
Building technology	27%	54%	31%	28%	30%	27%
Data management	33%	39%	37%	28%	32%	25%
<b>Managing Partners and Contracts</b>						
Publisher data relationships	22%	54%	20%	19%	21%	21%
Publisher inventory relationships	28%	49%	22%	16%	19%	11%
Ownership of DMP contracts	23%	46%	15%	16%	16%	8%
Training and education	24%	44%	23%	26%	23%	29%
Ownership of DSP contracts	20%	39%	15%	15%	14%	12%
<b>Campaign Planning, Execution, Analysis</b>						
Campaign optimisation	34%	41%	27%	30%	29%	25%
Trafficking creative / Ad operations	21%	52%	23%	24%	17%	17%
Audience planning and validation	32%	36%	21%	23%	17%	24%
Campaign analysis and reporting	30%	37%	27%	29%	29%	29%
<b>Strategic Direction</b>						
KPI framework	18%	45%	15%	18%	13%	17%
Campaign strategy and direction	16%	38%	28%	27%	28%	26%

## Programmatic Talent and Training

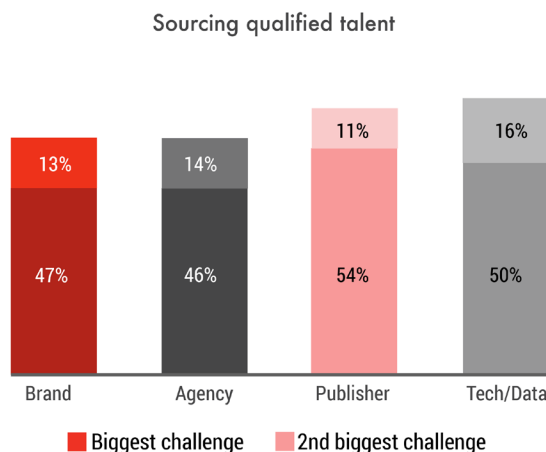
Given the complexity of programmatic, there is one issue that brands, agencies, and tech providers share concern over, which is the recruitment, training, and retention of talent. Despite its prevalence in advertising, programmatic still requires specialized skills that traditional advertising talent often does not possess. Many organizations grapple with how to train existing employees on programmatic, and then how to retain that talent, with everyone vying for the limited number of qualified individuals available. Not surprisingly, organizations are trying to be accommodating—especially in allowing for flexible working arrangements (e.g., remote working) since much of programmatic talent is based on the coasts.

As a programmatic consultant shared with us, “The complexities and nuances of buying, selling, and supporting the programmatic advertising industry make hiring, training, and retaining talent a real challenge for employers across this ecosystem, from brands and agencies to publishers and technology companies.” Similarly, a pharmaceutical executive mentioned, “We’ve had to completely change how we source for [programmatic talent], how we manage their compensation. It is very different from a traditional hire. We are finding them through our network, but people aren’t exactly coming to [our brand] looking for programmatic work.”

Nearly three in four brands, agencies, and publishers agree that finding quality talent is a challenge. For technology companies, 88% agree.



As the chart below indicates, sourcing qualified talent is the biggest or second biggest challenge across programmatic partners. For example, among publishers, 54% said sourcing talent was their biggest challenge, while 11% said it was their second biggest challenge.



Source: Prohaska Consulting – Programmatic Talent Study, February 2020

## The Impact of Data Regulations

The digital landscape is young and evolving quickly: the space is ever-changing and difficult to regulate. Not surprisingly, there are sensitivities around how organizations are collecting and using consumer data. With a number of high-profile data breaches (e.g., Target and Cambridge Analytica), privacy concerns have only heightened.

After years of negotiation, the General Data Protection Regulation (GDPR) was implemented in the EU in May 2018. The goal of GDPR was to align existing data protection protocols and increase the level of protection for individuals, thereby giving customers greater control over their data and more transparency about the data being collected. These restrictions are enforced for any organization that did business in the EU and most large U.S. brands. Subsequently, the California Consumer Protection Act (CCPA), introduced in January 2020, was the first data privacy law enacted in the U.S. With more states following suit, these heightened levels of data protection are rapidly becoming standard in the U.S.

Access to consumer data is paramount to programmatic advertising, so, needless to say, adhering to these regulations remains a focus for brands and agencies. The extent to which these regulations will disrupt advertising in the U.S. remains to be seen.

## The U.S. Adjusts to Regulations

By and large, organizations across the globe are supportive of a stricter regulatory environment, and those in the U.S. are no exception. However, guidelines are nebulous, and most organizations are struggling with what constitutes compliance. “While it would take a lot to be prescriptive, given all the nuances, there isn’t a focus on being clear and concise, so advertisers and data partners are caught in the swirl,” shared a digital executive. Across the globe, the interpretation of GDPR and CCPA has varied, with no consistent governing body to monitor implementation. The result is that things have been left open to interpretation. As these regulations become reality, many organizations feel ill-prepared. Per the IAB survey data, many organizations simply want to understand what constitutes compliance and receive some guidance on how to manage their customer’s data needs and expectations.

What does your organization need, to prepare for new legislation?	2019
A better understanding of what constitutes compliance.	41%
Ways to better manage privacy complaints and data breaches.	40%
Better data strategies that will allow for compliant and effective ad buys.	39%
A better plan/tactics to obtain user consent.	38%
A basic understanding of how the legislation could impact my business.	38%
A consent management platform.	33%
Clarity around the ramifications of and penalties for non-compliance.	30%
Guidance on the talent/tools needed to prepare for adjustments in business practices	30%
I don't know/Not sure	10%
None of the ways above	4 %

At this point, the impact of GDPR and CCPA has been relatively minor. While there were concerns that they would negatively impact consumer trust for brands, and a brand's own profitability, those concerns have been largely unfounded, according to industry interviews. There has not been a strong consumer backlash (in terms of inquiries or complaints). Similarly, there does not appear to be a big impact on profitability. When we asked a digital U.S. executive of a CPG brand about the impact to programmatic ROI, he replied, "We haven't seen a hit to our ROI. Now we have started tracking new KPIs, like data acquisition, but it hasn't hurt us. We are still operating with impunity in the U.S., though." Thus, the impact to consumers or a company's financial performance will not be fully realized until it is implemented across the U.S.

## Access to Data Remains a Concern

Continued access to and use of third-party data is uncertain. As heightened regulations became a reality, many organizations realized that the onus is on them to establish and manage their first-party data better. Many have gone to great lengths to build a Data Management Platform (DMP) and refresh their first-party data. Furthermore, the use of and access to third-party data is disappearing, as is evidenced by Google's announcement to phase out the use of third-party cookies by 2022 (Apple's Safari and Mozilla's Firefox have already implemented similar measures). While there are solutions that can still allow for ad tracking (like Google's Privacy Sandbox), it is unclear what will and will not be available. As a result, there is a greater emphasis being placed on an organization's ability to access and manage their customer data. "The future of audience buying and third-party data has pushed us into data ownership and a centralized data strategy. We're pretty confident there will be significant changes that will reduce our ability to do what we're doing today. So we need to mobilize and build towards a stable future, and that means being the owners and managers of our own data," said a digital executive in pharmaceuticals. Not surprisingly, those who have in-housed more of their programmatic operations seem better prepared than those who have not because of the control they have implemented over their data.

While regulations are a looming threat, they have also revealed benefits. First- or third-party, organizations are now working with "cleaner" data. While regulations have culled down the number of customers who can be targeted, those that remain are more relevant and interested, resulting in a more effective ad spend. Also, targeting only qualified customers can result in building a better sense of trust between brands and their consumers.

## Predictions for Programmatic

### Future Regulatory Impact

As the future of the regulatory environment continues to evolve, the anticipated limit or disappearance of cookies and third-party data magnifies the need for companies to manage their own first-party data, which will allow them to more effectively implement programmatic advertising. Similarly, organizations will require more data transparency from their partners, such as DSPs, to understand what data is being accessed and how it is being used.

Looking forward, brands feel optimistic about the future of regulations and the power it puts back in the hands of consumers. However, in light of future regulations, organizations are craving clarification on how regulations impact them, rather than being left to interpret things on their own. “[These regulations] are not a light switch, they’re a dimmer. We can still be compliant with minimal business disruptions if we work together [with regulators],” shared an industry executive.

With this regulatory uncertainty, native contextual ads are expected to increase in popularity. These are ads that are relevant to the content they are displayed with and that share a cohesive and seamless design with that content. These ads do not require cookies or customer data, so they are GDPR compliant.

### Expanding Programmatic Platforms

The digital ecosystem is constantly evolving, with new innovation and technological advancements. With it, programmatic will continue to mature as well, inevitably creating new opportunities and needs for brands and agencies.

As mentioned before, the rise of CTV and OTT has changed the way people watch TV and see advertising. With video content being consumed across web, mobile, and other connected devices, programmatic TV is going to gain more prominence with its data-driven approach for buying and delivering ads.

Additionally, we are seeing the soaring adoption of voice-activated devices, with voice-first browsing becoming a common behavior. This presents a unique opportunity for brands to get into the consideration set earlier in the path to purchase, and create a seamless sale, all without the need to physically interact with a device. Programmatic placement for voice-activated platforms will become a valuable way to interact with a relevant audience.

Finally, Digital Out of Home (DOOH) has been growing in prominence. With the advent of LED billboards, messaging and content is dynamic and much more eye-catching than static billboards. At the moment of this writing, DOOH is experiencing a temporary headwind due to COVID-19, which we expect will dissipate once the impact of the pandemic subsides. At that point, DOOH's growth trend should resume and accelerate.

In 2019, IAB reported that programmatic represented 40% of the overall \$10 billion DOOH ad revenue in the U.S. When you layer on the capabilities of geo-location technology and wearables, the notion of true omnichannel advertising, which follows you from home to out-of-home, becomes a reality. Programmatic will play a crucial role in integrating this data to deliver targeted ads to the right audience in a new way.

### **Future Technology Enhancements: AI & Blockchain**

There are two technology advancements expected to enhance programmatic, which we would be remiss not to mention. First, machine learning has already found its way into programmatic through highly complex algorithms that connect ads with buyers more effectively than manual ad placement. AI, however, will further improve upon ad effectiveness by predicting customer buying patterns and placing ads at the most relevant times and places, all without human input. AI will allow us not only to optimize ad spaces but also to measure and improve upon them in real time.

Secondly, blockchain, while still a nascent technology, can help reduce ad fraud by improving upon programmatic's transparency and eliminating middlemen. These improvements and innovations in technology continue to strengthen the relevancy and veracity of ads, thereby improving consumer trust and safety.

In conclusion, programmatic is illuminating a bright future for advertising as it helps to mitigate two age-old issues: inefficiency and waste. As the retailer John Wanamker allegedly put it, "Half the money I spend on advertising is wasted; the trouble is I don't know which half."

Programmatic is the first technology that can resolve these issues across the value chain by reducing waste by advertisers, reducing ineffective messaging for customers and allowing publishers to monetize the attention that they generate. Overall, this improved efficiency and reduced waste results in a more relevant connection to the customer with higher customer satisfaction.



## Key Takeaways

- The U.S. is at the forefront of programmatic globally, which creates an opportunity to establish best-in-class capabilities and set the course for structuring in-house programmatic functions.
- While in-housing programmatic is on-trend, there is still a need for external support, either in an agency or tech partner.
  - These findings demonstrate that a brand's need for external partners is not being eliminated, but rather may suggest the need for specialists or niche support.
  - Given the increase in data transparency and attribution that programmatic provides, this heightens the need for a strong analytics capability in particular.
  - There is a desire for external support across the programmatic functions, which we outline as:
    - technology infrastructure,
    - managing partners and contracts,
    - campaign planning, execution, and analysis and
    - strategic direction.
- Organizations are more likely to keep the strategic direction of their campaigns in-house. However, as the data suggests, this is not a hard and fast rule. In fact, organizations with multiple brands may choose to maintain control over some of their brands, while relinquishing control to a partner on others.
- Attracting, training, and retaining programmatic talent is an ongoing challenge for brands and external partners. This is an issue that needs to be further explored with HR to better understand the necessary skill sets, and to display a willingness to shift recruiting efforts to attract this specialized talent.
- While the threat of privacy regulations looms large for the advertising industry, the impact in the U.S. has been minor so far.
  - While the nationwide impact is yet to be realized, individual states are enacting their own regulations restricting access to third-party data. The organizations who build and manage a robust customer database will best weather this storm.
- The future of programmatic is rapidly changing with the proliferation of technological advances. Brands and external partners who embrace these new technologies and capabilities will be more successful in adapting to this ever-changing landscape.
  - These advances also offer more opportunities for partners to specialize in emerging areas.
- Overall, the benefits of in-housing are many, with the biggest being the ability to drive better consumer experiences through increased connectivity and collaboration across marketing. This is particularly so where media is integrated in campaign development rather than treated as a stand-alone function. In-housing drives data integration and improves planning, thereby improving data transparency, ad efficiency, and ultimately, ROI.

- As previously noted, agencies still play an important role in programmatic, even with organizations that in-house some programmatic functions. However, that agency role is shifting to more of a supporting role, which may suggest an opportunity for deeper specialization within agencies.
- The COVID-19 pandemic accelerated to many changes in advertising. While some brands are limiting their short-term media spend, those same brands are also leaning more heavily on programmatic as consumers remain inside and online. The long-term impact is unclear, and this could result in an increase in programmatic as consumers are developing stronger online habits, like doing more shopping online.
  - This pandemic also illustrates the importance of a well-integrated programmatic team when it comes to quickly responding to unexpected events.
  - Whether in-housing or working with an agency, those teams that have clear and transparent processes can pivot and adapt more easily.