

Shape Advertising Data Infrastructure

Powering the Next Generation of Ad Agencies
with the Best PPC Data Technology



Introduction

Digital advertisers have access to an unprecedented volume of data they can use to craft and optimize hyper-targeted advertising campaigns.

Organizations process billions of data points about people online each day—everything from online searches to ride-share trips requested.¹

But for many digital advertising agencies, it's impossible to capitalize on this data to drive exceptional pay-per-click advertising performance for their clients. Cross-channel campaign measurement and attribution were voted marketers' top priorities in 2019.² Yet, issues such as data silos, difficulty in proving ROI, and lack of internal experience limit them from taking action on available data in a meaningful way.³

Shape's Advertising Data Infrastructure (or ADI) addresses many of the core issues "big data" presents for the digital advertising industry. Data can be unified en masse across multiple ad platforms and made available across organizations for analysis. Businesses of all sizes can afford to scale their data infrastructure thanks to advances in cloud computing and data storage. And, the proliferation of business intelligence tools makes analyzing client performance data easier than ever.

Shape Advertising Data Infrastructure combines a two-way API that normalizes data across all major PPC ad networks, a warehouse to house all the data, and public connectors to industry-leading software tools. No matter the complexity of PPC data needed, the ADI makes accessing, transforming, and optimizing PPC data straightforward. Shape ADI was built to help enable agencies to transition to innovative, data-centric organizations.



Digital Agencies Are Lost in a Data Desert

Digital advertising agencies exist because clients entrust experts to manage advertising campaigns on their behalf. Clients expect their marketing dollars to be wisely invested in channels that drive the best results and return on their investment.

To meet those expectations, digital advertisers rely on data. Data is essential to launching new strategies, driving campaign optimizations, and determining if performance goals are being met.

But data management still represents a major hurdle for organizations. In a survey of approximately 700 business professionals, only 23% of respondents say they are able to act on a small portion of the customer data they collect. ⁴ Why?

Data is Dispersed: Agencies often run campaigns on multiple ad platforms for clients. Each ad platform has different campaign types, ad types, metrics, dimensions, and report formats. To gather holistic performance insights, data must be pulled from each platform, standardized, stored, and analyzed for each client. Joining ad data with clients' other data (analytics, internal, or third-party) adds complexity since a single client may have several additional data sources.

Data is Siloed: Departments are unable to share data freely across the organization due to reasons such as technical limitations or security issues. Since each department has its own systems and tools, the data has no standard format and cannot be easily aggregated or analyzed. Teams often make short-sighted decisions based on the limited data available.

Data is Obsolete or Incomplete: Disparate data takes time to manually assemble. By the time it can be analyzed for business insights, it may be too late to apply changes to correct problems. Dependent on how data is collected and stored, necessary data points or historical metrics may be missing which makes certain analyses impossible.

Engineering Resources are Finite: Engineering resources at digital ad agencies are often split thin. Ad platforms regularly launch and sunset versions of their APIs. This requires ongoing management and means data points regularly become obsolete. Once data is pulled via the API, it must be stored and maintained at scale. For engineers lacking PPC domain expertise, aggregating data together "correctly" for digital advertisers is costly and time-consuming. Once allocated elsewhere, engineering resources may be hard to regain.

Marketing agencies find themselves in one of four categories according to business intelligence software vendor, Tableau—data newbies, data savvy, data rockstars, and data innovators. ⁵

- **Data Newbies:** These organizations have entry-level data skills. Manual workflows are common. Business decisions are based on evaluating singular data sources and analysis is time-consuming. Acting on businesses intelligence is done reactively.
- **Data Savvy:** Data savvy businesses are KPI focused. Data is highly-valued for decision making. Business operations are evaluated based on multiple data sources. There is a “test-and-learn” mindset but decision making remains reactionary.
- **Data Rockstars:** These organizations are truly “data-driven.” They have maintained data warehouses. Marketers monitor and optimize initiatives based on near real-time data. They implement proactive strategies based on their analyses. Employees tell unified data stories because there is enterprise data alignment.
- **Data Innovators:** Data innovators have fully automated data warehouses. They utilize machine learning and predictive data models to launch innovative, successful marketing strategies. They have a 360 view of their customers. Teams have their own data and analytics specialists, but there is an enterprise-level data culture. ⁶



Image Source: "The Marketing Analytics Evolution, Tableau

Before addressing their data shortcomings, a digital advertising agency must first evaluate where they are at in their data journey. A lack of data can be solved by solutions such as Shape's Advertising Data Infrastructure. But without the people, software, and processes to utilize it correctly, agencies will struggle to compete against more innovative competitors.

Introducing Shape Advertising Data Infrastructure

For a digital advertising agency, the first step toward democratizing data across their organization is aggregating all their digital marketing data together (typically in a data warehouse).

Businesses utilize data warehouses to aggregate and store multiple disparate sources of data together. Using a data warehouse, huge quantities of data can be stored and analyzed together to uncover valuable business insights.

Data warehouses also act as large repositories for historical data from sources across an organization. A data warehouse can be used to analyze historical data across a large, diverse set of sources simultaneously.

Manually uploading all of this data into a data warehouse each day is neither feasible or scalable. Therefore, most digital agencies rely on costly development teams or third-party data pipelines to aggregate data from marketing APIs and upload it into their data warehouse.



Shape Advertising Data Infrastructure: A Powerful Ad Analytics Engine

The Shape Advertising Data Infrastructure is one of the most powerful ad analytics engines available.

It was built to remove the barriers that prevent digital advertising agencies from accessing their data and applying their learnings at scale. The ADI combines Shape API's robust performance data and two-way functionality with Google BigQuery's incredible storage and processing power. PPC data can be aggregated, segmented, joined, and sent back to ad platforms hyper efficiently.

The Infrastructure

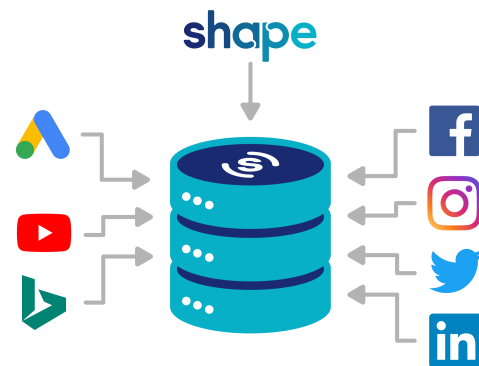
Shape's Advertising Data Infrastructure utilizes the Shape API along with Google BigQuery: Google's fully-managed data warehouse product running on the Google Cloud Platform.

BigQuery (Google's public-facing version of Dremel) allows users to scan and analyze massive amounts of stored data in seconds. According to Google, Dremel can process 35 billion unindexed rows of data in tens of seconds.⁷ Digital advertising agencies benefit from the same massive processing power and infrastructure Google uses to analyze their own data across services such as Google Search, Gmail, and more.

Data from seven ad networks is downloaded and populated in the Shape Data Warehouse via Shape's universal API. The API, which powers the Shape Platform today, is a massively parallel data pipeline that allows Shape to refresh performance data for millions of campaigns every 45 minutes. The API enables Shape to analyze billions of impressions across millions of ads each day.

Each day, the Shape Data Warehouse aggregates data from:

- Google Ads
- Youtube Ads
- Microsoft Advertising
- Facebook Ads
- Instagram Ads
- LinkedIn Ads
- Twitter Ads



Shape Data Warehouse customers receive full access to their BigQuery instance with all management handled behind the scenes. Shape's Warehouse engineers upgrade API connections, manage data pipelines, and provision the infrastructure needed for warehousing. Shape covers the cost of the data warehouse infrastructure as well which means that fees are not passed on to customers when data storage needs increase.

Shape Data Warehouse customer data is secure and accessible with little to no downtime. BigQuery provides automatic data replication for disaster recovery and high availability of processing. BigQuery offers a 99.9% SLA and adheres to the Privacy Shield Principles.⁸

Powering Ad Analytics

Shape Advertising Data Infrastructure provides a powerful digital ad analytics engine that customers can utilize to drive business performance and operations. On top of providing one of the most robust sources of cross-platform ad data, the ADI's BigQuery foundation allows agencies to run complex analyses on their clients' data or send that data to business intelligence tools in seconds.



Fast Cross-Platform Analysis & Reports: All of the ad account data an agency manages is available via one, unified data warehouse. Agencies can eliminate wasted time spent manually assembling reports for clients across multiple platforms, time frames, and segments. Ad account data can be analyzed and reported on in BigQuery or using other tools such as Google Data Studio or Sheets. Since PPC data is normalized before it enters the warehouse, ADI customers can use it without needing to format the data first.

Advanced Data Segmentation Made Simple: Shape ADI is well suited for online analytical processing (OLAP) and business intelligence (BI) use. OLAP enables data to be analyzed using multiple dimensions meaning data can be "sliced and diced" in thousands of ways to elicit learnings about the business. The ADI stores performance metrics, dimensions, audience segments, and more. Everything from generic demographics (age or gender) to user behavior (affinity categories and conversion behaviors) can be utilized to derive insights about a client's target audiences.

Deliver Rapid & Frequent Insights: Data is updated daily in Shape ADI (or more often as needed). Reporting and analysis can be completed quickly so that corrective action can be taken on poor-performing campaigns. The processing power of the ADI enables data analysts to run queries of any size without systems "timing out" and to adjust queries on the fly.

Access Historical Data: One of the primary benefits of utilizing a data warehouse is the ability to access historical data. Shape ADI customers have a singular source of historical data for all of their advertising platforms, accounts, and campaigns available indefinitely. Digital advertisers can run analyses using historical data to uncover trends over time.

Transform Data into Insights: Agency employees can access data from Shape ADI in a number of ways including both direct queries and external tools.

Digital advertisers can utilize ADI data to generate reports, create data visualizations, apply data modeling, and run predictive analytics using these (and many other) options:

- Query data directly in BigQuery using SQL
- Integrate with tools in the Google Ecosystem such as Data Studio and Sheets
- Connect to external BI tools such as Tableau and Domo
- Build PPC tools by accessing data via the Shape API and then pushing it back to ad networks

Shape Platform & ADI: Digital advertising agencies may use Shape ADI in a standalone manner for their digital advertising data needs. However, it's recommended that customers utilize the platform and warehouse in tandem.

The Shape platform stores campaigns in Client and Budget hierarchies. Agencies can easily join Client or Budget-level data in their internal systems with data from the ADI using dimensions such as Client/Budget names or IDs.

"We rely on Shape to simplify and accelerate our access to advertising data in order to efficiently manage and optimize campaigns."

G5 leverages the Shape Data Warehouse to automate optimizations across advertising channels."

In a recent pilot test using G5's proprietary artificial intelligence platform and campaign data accessed through Shape, G5 increased the total number of conversions and decreased cost-per-click by 16%.

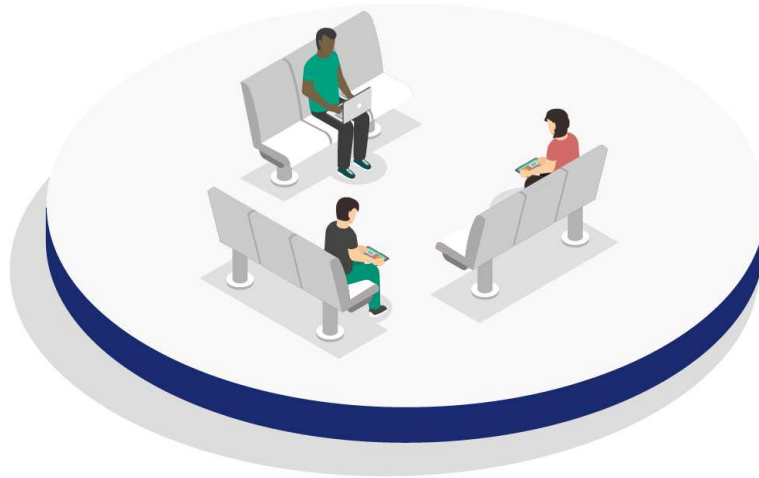


David Rodrigues
G5, SVP Product Management

Digital Advertising Use Cases

"Brands will need data strategy and the right technology to allow them to analyze data, and that's where agencies come in," says Brigitte Majewski, VP and research director for Forrester. ⁹

Advertising Data Infrastructure is a natural advancement from the manual data management agencies are already doing. There are exceptional results to gain for agencies and their clients if they embrace ADI to generate business intelligence.



Account Optimization

For many agencies, account optimization is time-consuming, expensive, and largely manual. Unless agencies have access to ad management software, tasks such as writing new ads, launching new campaigns and tests, and adjusting targeting are done platform-by-platform. scripts, rules, and bidding algorithms are helpful to automate some tasks but creative, manual work is still required.

Shape's Advertising Data Infrastructure enables better account optimization in multiple ways. A benefit of storing clients' data in a data warehouse is that it allows agencies to scale processes. For example, reporting and anomaly detection can be run simultaneously for all clients and prioritized.

Another advanced application of Shape ADI (that doesn't require engineering resources) is using performance data to apply automation in ad platforms using scripts or rules. Both Google and Bing scripts can utilize inputs (ex: Google Sheets data from the Shape Data Warehouse) and conditions (written by an advertiser) to make automated daily changes.

When the award-winning agency, Push Group, needed Advertising Data Infrastructure to feed their advanced ad optimization and reporting tools they turned to Shape.

"Shape has given us a license to be more creative knowing they can support us on our journey of building the advertising death star platform."

As a large agency, we needed a stable data warehouse solution that would allow us to build our tech platform on top of quickly. The solution has allowed us to focus on user experience to provide the most value for our customers.

The team has been super responsive with our requests for different datasets which have given us a license to be more creative knowing they can support us on our journey of building the advertising death star platform



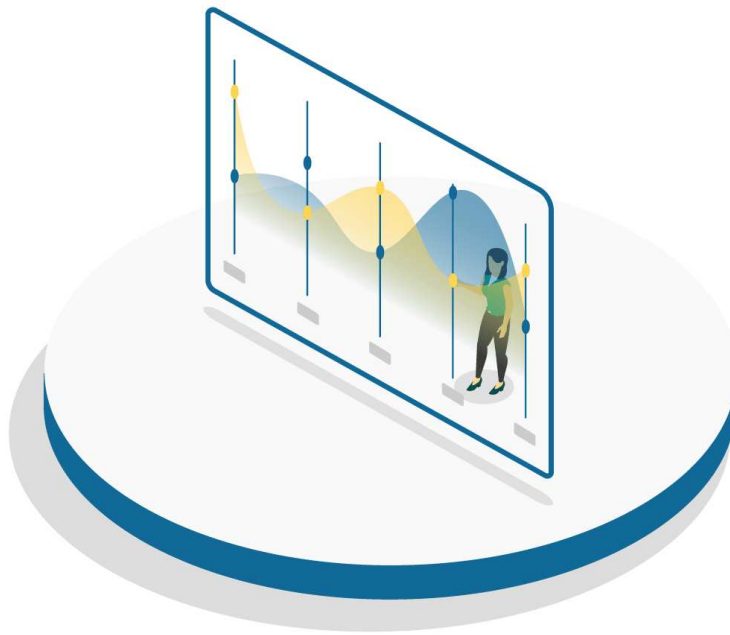
Ricky Solanki
Push Group, Joint SEO

Conversion Attribution

For digital advertising agencies to retain clients, they must prove they can achieve or exceed their PPC performance goals better than the client or another agency could. Often these performance goals include driving conversions (such lead form completions, calls, or purchases) and maintaining a positive return on investment.

But attributing conversions to specific campaigns or campaign elements isn't as simple as it seems. Not only is ad performance data spread out across platforms, but typically, so is conversion data. A business may store form completion data in an internal system, record calls through a third-party vendor, and track online chats in another. This issue is amplified for agencies who manage different clients each with their own preferred vendors.

Shape Advertising Data Infrastructure makes conversion modeling easier in two major ways: aggregating cross-platform PPC data together and storing data sets (i.e. account IDs, campaign IDs, ad IDs) that make attributing conversions to PPC campaign elements possible. Advertising data can be joined with data in other data warehouses (such as conversion or web analytics data) so long as there is a shared element or key stored in both. By combining this data automatically, digital advertisers can use this to identify profitable campaigns and audiences and then adjust advertising strategies accordingly.



Reporting

Most digital advertising agencies complete performance reporting on a regular basis for their clients. Reports provide clients with their advertising results and ideas of how to optimize performance.

A key benefit of using Shape ADI is the ability to utilize business intelligence or reporting software to provide reports to clients automatically. For example, digital advertisers can craft customized dashboards for each of their clients. It's as simple as importing data from the ADI into Data Studio (or another BI tool). Data can also be imported into Google Sheets so more complex ad hoc analyses can be run in seconds.

Most tools enable reports to be shared directly with clients or sent at specific intervals. Since data is updated daily, an agency's clients will receive up-to-date performance data for their campaigns.



Agency-Level Business Insights

Agencies can utilize intelligence garnered from Shape Advertising Data Infrastructure to better develop and scale successful niches within their client base. Two areas where this data is useful are audience targeting and business operations.

One of the most important things an advertiser needs to do before launching a client's ads is to understand their client's target audience and their motivations. Ad platforms offer a varying degree of information about users such as demographic data, psychographic data, online behavior, and purchase behavior.

Along with storing and analyzing this wealth of granular audience performance data, the ADI enables customers to complete audience and look-alike modeling. By combining audience performance data with conversion data, agencies can identify the traits and characteristics of their most profitable audiences in order to predict similar lucrative audiences to target. Advertisers can optimize individual client strategies and apply these learnings across clients at scale.

For digital advertising agencies, data management isn't just limited to client data, however. A digital advertising agency has its own set of business operations data that must be maintained and analyzed. With Shape ADI, information such as agency-level spend by ad platform could be generated in minutes. Agencies can also identify trends or segments in their data that may increase profitability.

Is there a specific vertical that drives the highest revenue for the agency? Are client retention rates and lifetime values higher for specific business models? The ADI makes these analyses possible.

"Shape's focus on the key ad networks means that we save the agencies we work with a ton of time thanks to the data normalization capabilities."

And as a managed data warehouse provider for agencies with hundreds of clients each, Shape gives us the peace of mind that the data we pull from various ad networks like Google, Facebook, and Microsoft is always in the right place, in the right table, and readily comparable.

When clients ask us to combine the data we pull with Shape with additional data sources that are key for their agencies it's easy because Shape is hosted in BigQuery so it's a very frictionless set-up.



Niklas Bargstedt
Acuto
Co-Founder & CEO

Getting Started with Advertising Data Infrastructure

Implementing Shape Advertising Data Infrastructure is easy and requires minimal effort. The ADI currently has 40+ data tables.

Upon signing up for Shape ADI, users will have access to 5+ campaign-level data views for free. Once a user opts into a Premium ADI, additional data sets can be enabled with a few simple clicks. Within a few hours of enabling a data view, the data will become available in the BigQuery UI.

After a customer has purchased Shape ADI, up to a years' worth of digital advertising data can be made available for many views in approximately 24 hours.

To request more information about the ADI or to sign up, please visit shape.io/adi or contact sales@shape.io.

Sources

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