

WHITEPAPER

How Amperity Powers Marketing, Analytics, and Customer Experience

**The flexibility, customization, and security you need to fuel all
your analytics and engagement systems with rich customer data**

Brands have been collecting data from an ever-growing number of channels and tools for years, capturing every click, every purchase, and every email open. They've invested in trying to bring this data together, either through limited-use case platforms or their own in-house projects. And they're increasingly investing in new tools, technologies, and companies to help them deliver the best experience across every channel.

Despite all these investments, brands are still struggling to pull all their systems and data together in a way that works. Marketers can't get the customer data they need into the plethora of tools they use, even though they know that data exists somewhere. Data scientists and analysts can't produce meaningful insights because they spend 80% of their time munging data, and even then, they're working from a fragmented view of the customer. Customer service staff who interact directly with the customer lack the information they need to create seamless experiences. IT teams are frustrated because, despite their heroic work, they continue to be overwhelmed by more and more requests for data and, at the same time, confront new regulations around compliance and governance. Most importantly, consumers are frustrated because they are treated like strangers by the brands they shop and interact with continually. All of this is the case because of the traditional and ultimately ineffective approach brands have taken to managing their customer data.

Amperity was designed from the ground up for smarter customer data management. With Amperity, brands are finally able to get the exact right data to the right place at the right time, every time. In the next sections we walk you through this unique approach, which includes multiple tables and databases, powerful custom attributes, complete flexibility in destination and delivery, and robust security. Leveraging these innovations, Amperity enables you to make use of all your customer data across your organization in a fast, easy, and scalable way.

Drawbacks of The Traditional Approach

In our whitepaper about [data ingestion](#), we discuss the challenges companies face using traditional integration systems to ingest customer data. Because they center around a single database with a fixed schema and pre-built connectors, they bring together data in a way that is incomplete and inaccurate, and an implementation that is brittle and inflexible to new data sources. These same limitations manifest a whole new class of challenges during data syndication.

MULTIPLE ROLES, MULTIPLE VIEWS TO MANAGE

Most traditional systems start with a single database and a fixed schema, which is at the core of their design. While this provides some initial utility, it dramatically limits the flexibility in unlocking the data for broad use over time. Often there is a requirement to view customer data in different ways based on its intended use and the role of the individual consumer. Some big brands have tried to tackle this problem with data marts, which are subsets of your full dataset designed for a specific team or use case. For example, you may have a data mart for your analytics team that doesn't include First Name, Last Name, or Email because they don't need those fields to glean insights. Unfortunately, on top of the new data warehouse your IT team needs to support, data marts are another significant investment. Each data mart needs to be designed for the specific use case, allocated computing resources, and maintained as long as the team needs access to the data.

INFLEXIBLE TO CHANGE OVER TIME

Traditional approaches that are based on a single database and schema make it difficult to adapt as your needs change over time. For example, let's say you merge with another company or bring on a new data source and want to generate a new view that represents the combined customer. A system with a single database forces you to choose between the new view (combined customer) and the old view (existing customer) - and makes it impossible for these systems to co-exist. This means that generating a new view of your customer and understanding the combined data across your systems is tied to an overall migration of all of your systems to this new profile. As another example, you might discover a new way to engage with customers that has a new type of schema and requires an optimized view of data. Traditional connector-based approaches require development of a new connector, which can take time to come to market and be supported.

BALANCING EASE OF ACCESS AND COMPLIANCE

Your customer data is some of the most important and sensitive data at your company, so you need to protect it - and a single database forces complexity in access and control. Many systems do not support redaction of confidential information or PII, and if they do it limits the utility of the resulting data. For example, most tools cannot allow a marketer to generate a segment of customers who are high value and orchestrate that segment to acquisition tools that target based on PII, while obscuring the marketer's view of individual customer records. As a result they force a trade-off which either limits access or compliance.

Amperity's Unique Approach

When we founded Amperity in 2016, there were already nearly 4,000 tools and companies listed in the Marketing Technology Landscape graphic from chiefmartec.com. We knew from the start that brands would use a huge variety of tools, and that these tools would likely change over time. With this in mind, we designed our system to provide the flexibility and precision needed to send just the right data, in the right manner and speed, to any downstream system. To accomplish this, Amperity invented on a new approach to data egress, using multiple databases and tables, powerful custom attributes, configurable destinations, and PII data protection and auditing.

CUSTOM TABLES AND DATABASES

We know that data is often poorly formatted, badly organized, and difficult to use. Simply bringing this data together into one place isn't enough - the data needs to be reorganized and reconfigured to make it usable for your use cases.

Imagine you want to know how much each loyalty member has spent online, in-store, and in total with your brand. Right now, the data you need is likely stored in at least three different systems. Your loyalty database stores all your loyalty members, probably in a single table. Your eCommerce platform stores your online transaction data, usually in two tables: a "Customers" table for customer information (like name and shipping address) and an "Orders" table with order details (e.g. when the order was placed and how much it cost). Your point-of-sale system stores your in-store transaction data, usually in a single table. To answer your question about customer spend, you need all of that data in a single system and advanced SQL skills to write the correct query.

With Amperity, the answer is much easier to find. Amperity would ingest all the data from your loyalty database, eCommerce platform, and point-of-sale system. After resolving identities, Amperity would build a comprehensive database called a Customer 360 table that would include your customer's PII and custom attributes (see below) for their loyalty status, online spend, in-store spend, and Customer Lifetime Value (LTV). Now, the answers to your questions would live a single, always up-to-date table, drastically simplifying how you query and make sense of your data.

Another mechanism for optimizing your data for specific use cases is through merge rules, which Amperity works closely with you to define. Merge rules allow you to prioritize one dataset over another when they might have overlapping or conflicting data. For example, if your eCommerce data is generally higher quality and more up-to-date than your loyalty data, your Customer 360 table can include the PII from your eCommerce system, but additional attributes, such as loyalty status, from your loyalty data source.

Later, as you integrate more data sources and experiment with new use cases, you may decide you want additional databases - one with a summarized view of your customer profile for your marketing team, and another with detailed information about customer interactions and orders for your analytics team. Because Amperity can easily generate new databases and tables at any time, you can set up both new databases next to your existing database, do any necessary quality and data checks, and then phase out the previous database when you are ready. This allows you to iterate on and experiment with your data without downtime or additional compute/storage costs, and provides support for gradual migration or co-existence as your needs grow and change.

POWERFUL CUSTOM ATTRIBUTES

Some of the most valuable insights about your customers are hidden in your data. LTV, for example, doesn't simply emerge by co-locating data. It must be calculated by pulling together a variety of source data, modeling it, and creating an attribute that appends to every customer profile in your database.

In the example above, LTV is a custom attribute. Amperity works closely with you to define the types of custom attributes that will be most valuable to you and your teams. Then we build them for you. Custom attributes span a wide array of uses. They can be simple like nearest store or gender, or complex and unique to your business.

For example, we worked with a major airline to create a custom attribute for seat upgrade marketing eligibility. We used the customer's next flight, the plane type, the number of seats available, and other factors to determine if an individual was eligible for their premium class seat upgrade marketing campaigns. This made impossible-to-answer questions like "which customers can I market seat upgrades to" easily answerable with a simple query.

DATA EXPLORATION AND SEGMENTATION

With tables generated and custom attributes appended, you can use Amperity to explore, segment, and syndicate data to your downstream systems. Amperity provides a view of your data called Data Explorer, where you can view all the tables in your database and dig into each one to understand what they contain, how complete the data is, and more.

DATA EXPLORER

Customer 360 DB

Help

Close

DESCRIPTION	The "Customer 360 DB" serves as the basis for visual segmentation and the main data source for customer segmentation and analytics queries.
DATA UPDATED	
NUMBER OF TABLES	8
DATABASE SIZE	49.1MB
LAST MODIFIED	Yesterday, 12:17 PM
CREATED	Nov 9, 4:45 PM

DATABASE TABLES

The Customer 360 DB database contains 8 tables, and is used by 22 segments.

CampaignMonitor_Actions

Number of records

85.0k

Number of fields

18

Customer360_Alex

Number of records

75.6k

Number of fields

16

Customer_360

Number of records

75.6k

Number of fields

15

Loyalty_Members

Number of records

28.9k

Number of fields

16

PoS_Purchasers

Number of records

57.7k

Number of fields

16

eComm_Customers

Number of records

50.3k

Number of fields

14

eComm_Orders

Number of records

96.0k

Number of fields

7

view_freshness

Number of records

1

Number of fields

1

Data Explorer: See an overview of all tables inside your databases with Amperity.

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DATA EXPLORER						
Customer 360 DB > Customer_360				Schema	Examples	Details
Help Close						
FIELD NAME	DATA TYPE	PII	COMPLETION	CARDINALITY UNIQUENESS	EXAMPLE	DESCRIPTION
Amperity_ID	String		100%	75,404 100%	eabb04ff-35d8-3083-a2c5-9cce70b48d76	Unique ID for each customer of MatchStik generated by Amperity
First_Name	String		91%	289 <1%	Lois	
Last_Name	String	✓	100%	365 <1%	Rodriguez	
Email	String	✓	79%	55,431 73%	lrodriguez@discuz.net	
Gender	String		77%	4 <1%	Female	
City	String		80%	527 <1%	Santa Barbara	
State	String		80%	73 <1%	California	
Birthdate	Date		76%	16,282 22%	1947-03-09	
Loyalty_Tier	String		38%	4 <1%	IVORY	Member tier in the loyalty program
Loyalty_Points	Integer		38%	9,280 12%	4451	
Loyalty_Join_Dt	Date		38%	5,470 7%	2009-02-16	Date of first onboarding to the loyalty program
is_Online_Customer	Boolean		100%	2 <1%	true	Customer has purchased online
Online_Last_Purchase_Dt	Date		58%	3,729 5%	2006-01-01	Date the last online order was placed
is_InStore_Customer	Boolean		100%	2 <1%	true	Customer has purchased in a store
InStore_Last_Purchase_Dt	Date		62%	8,255 11%	2009-08-18	Date of the last in-store purchase

Data Explorer: View details about your individual tables, including how complete and unique a field is, whether it contains PII, and example data.

The platform also includes a Visual Segment Editor and a SQL Segment Editor, enabling both your non-technical users and advanced SQL users to get the most out of your data. Amperity allows you to create and syndicate as many segments as you want, updating them automatically every time your data refreshes.

VISUAL SEGMENT EDITOR
Auto-saved a few seconds ago Help Discard **Activate**

High loyalty online customers with no purchases in 30 days DRAFT

Create a segment of customers... [Switch to SQL Editor](#)

WHERE Loyalty_Tier is in list + -

- x GOLD
- x DIAMOND

AND is_Online_Customer is true + -

AND Online_Last_Purchase_Dt is before + -

today - 30 days + -

☒ Use relative dates [What's this?](#)

AND Select attribute Select condition Set value +

Run Segment

[Download](#)

DESCRIPTION

Add a description

BEING SENT TO **TEMPLATE**

There are no destinations configured

[Add one now](#)

ADVANCED OPTIONS

Open Data Explorer	ATTRIBUTE	TYPE
▼ Customer_360		75.6k
Amperity_ID		Text
First_Name		Text
Last_Name		Text
Email		Text
Gender		Text
City		Text
State		Text
Birthday		Date
Loyalty_Tier		Text
Loyalty_Points		Number
Loyalty_Join_Dt		Date
is_Online_Customer		Yes / No
Online_Last_Purchase_Dt		Date
is_InStore_Customer		Yes / No
InStore_Last_Purchase_Dt		Date

High loyalty online customers with no purchases in 30 days

Auto-saved a few seconds ago

Discard

Create a segment of customers...

[Switch to SQL Editor](#)

WHERE Loyalty_Tier is in list GOLD DIAMOND +

AND is_Online_Customer is true + -

AND Online_Last_Purchase_Dt is before today - 30 days +

☒ Use relative dates [What's this?](#)

AND Select attribute Select condition Set value +

Run Segment

Download

DESCRIPTION

BEING SENT TO

TEMPLATE

There are no destinations configured

[Add one now](#)

► ADVANCED OPTIONS

[Open Data Explorer](#)

ATTRIBUTE

TYPE

Customer_360	75.6k
Amperity_ID	Text
First_Name	Text
Last_Name	Text
Email	Text
Gender	Text
City	Text
State	Text
Birthdate	Date
Loyalty_Tier	Text
Loyalty_Points	Number
isOnline_Customer	Yes / No
Online_Last_Purchase_Dt	Date
is_InStore_Customer	Yes / No
InStore_Last_Purchase_Dt	Date

Create, run, and syndicate segments with the Visual Segment Editor.

Amperity is designed to connect to any destination. This includes your favorite legacy systems, niche tools, and whatever new best-in-breed technologies you might want to onboard later down the line. This is possible because our platform can be configured for any destination. So while we do provide out-of-the box connectors like Facebook, Google AdWords, and Snowflake, we also offer services to custom configure your data and build precise integrations for any destination or use case.

There are also several options for how data is syndicated out of Amperity, which you determine. For example, if you prefer to create segments within your email campaign tool, Amperity can syndicate an entire table or database to that tool, so that you have all the data you require to create segments there. Conversely, if you prefer to create segments in Amperity, you can also send segments directly to destinations.

PII PROTECTION AND AUDITING

Security should be top of mind for anyone who works with customer data, and access should be limited to those who need it to do their jobs. That said, if you don't have a nuanced way to keep data secure while giving individuals the access they need, you run the risk of over-restricting data access.

Amperity has been designed to maximize both security and data usability. We accomplish this through four role-based PII access levels, which you determine for each of your users. For example, an "operator" can create, edit, and run segments, but all PII is redacted. This allows them to use the data, but not view it. An "owner" can also create, edit, and run segments, but for them PII is visible.

In addition, you can designate the level of access required to send data to each of your destinations. For example, certain users would not be able to send PII to your internal server, but they could send it to Facebook (because they could not then view it in Facebook either).

We also give you visibility into who is accessing and using your data. There is an audit log for each session where someone accesses your data in our system, whether they're a member of our team working to implement your data or a member of your team creating new marketing segments.

Amperity Egress Summary

Amperity was built to make all your customer data unified and actionable. This allows you to fuel all your systems with the rich and comprehensive data you need for better marketing, analytics, and customer experiences.

1. Complete: Amperity builds custom tables, databases, and integrations, so you can easily use all your data in any downstream system.

2. Rich: Amperity enhances your customer profiles with additional custom attributes, for an even richer understanding of your customers.

3. Actionable: Visual and SQL Segment Editors let you segment data and send it directly to your engagement and analysis tools.

4. Secure: Amperity lets you determine which users can see what data, what destinations they can use, and even audit who has been accessing what data.

About Amperity

Amperity, the world's first Intelligent Customer Data platform, is revolutionizing customer data unification and management for enterprise brands. Leveraging advanced machine learning-powered identity resolution and the full power of the cloud, Amperity ingests raw data, stitches it together, and forms the richest customer profiles possible. Then, by shaping multiple databases for any downstream system, Amperity syndicates data to the full set of engagement and analytics tools in the precise formats they require. With Amperity, many of the world's most loved brands are unlocking their siloed data, powering their tools with rich customer information, and bringing their best, data-driven marketing ideas to life.