

# ***IDENTITY RESOLUTION 101:***

**What It Is and Why You Need It**



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**SECTION 01**

***INCOMPLETE  
CUSTOMER  
PROFILES***

Marketing's Achilles Heel



## Marketing's Achilles Heel

Imagine this: You acquire a new online customer, Samuel, who orders a pair of sunglasses from your website. After his order is placed, Samuel gets funneled into your designated welcome journey for new buyers. His first email in this series includes a thank-you note for becoming a customer and an invitation to become part of your loyalty program.

That same week, Sam, whom you know as an exclusively in-store shopper, reaches the six-month mark without interacting with your brand. You enroll him in a win-back campaign, nudging him with a few “Don’t forget about us!” texts and emails with an exclusive discount code.

**On the surface, these approaches make sense. But what if Samuel and Sam are actually the same person?**

Rather than one online newbie and one churning offline shopper, you actually have one unique multichannel repeat customer. Suddenly, the welcome and win-back campaigns aren’t relevant for him, and you may have actually confused a brand loyalist with inconsistent messaging.

Customer journeys continue to become increasingly complicated. People move between different channels, devices and store locations. An individual customer generates data through multiple interactions that include events, call centers, retail locations, the company website, email, mobile apps and social channels. Brands struggle to weave all this data together into a reliable, comprehensive and unique customer profile.

To solve this problem, brands invest in a variety of tools, particularly customer data platforms (CDPs). Unfortunately, not all CDPs are created equal when it comes to connecting the dots across these continuously growing data sets. And when you can’t connect the dots – between web visits and in-store visits, for example – you can’t create, maintain or use accurate customer profiles.

Of course, connecting the dots isn’t always easy. People sign up for services using different email addresses. People don’t always use their rewards cards when shopping. People sometimes browse anonymously. Unifying identifiable customer data to continuously refine customer profiles is a key capability of any enterprise CDP. This capability is called “identity resolution.” And the ability to resolve identities efficiently and dependably distinguishes CDPs that support a truly customer-centric, personalized approach to marketing from those that can’t.

**SECTION 02**

**IDENTITY  
RESOLUTION**

A Closer Look



## **PERSONALIZATION REQUIRES KNOWLEDGE**

Identity resolution allows you to link every web and email interaction, contact center chat, in-store purchase and app download to a unique individual. When an interaction is attached to a customer's email address, for example, a robust identity resolution solution can connect the email to all other interactions that customer has had with the brand.

**IN OTHER WORDS, IDENTITY RESOLUTION ANSWERS THE QUESTION, “WHO IS THIS?” FROM ONE INTERACTION TO THE NEXT.**

Customers today expect a personalized experience when interacting with brands. Such personalization requires knowing who that customer is to you as a brand: what they have purchased, how frequently they purchase, whether they tend to return products, and so on. Without that knowledge, personalization can't happen in a meaningful way. For this reason, brands that get identity resolution right can create a consistent customer experience and gain a distinct competitive advantage.



## ***A UNIFIED VIEW OF EACH AND EVERY CUSTOMER***

Identity resolution capabilities allow you to link a range of customer behaviors, both on- and offline, to a single unique identity. For example, if a customer initially views a product on a smartphone but later finalizes their purchase on a laptop, identity resolution tools can connect the two points of contact. Understanding that multiple interactions involve the same person provides insight into the customer's journey and enables relevant, targeted customer engagement.

With the right identity resolution solution, you will gain a unified view of individual customers, which makes it possible to understand customer behavior, predict future behavior, send personalized messages and coordinate campaigns over time and across channels. You will also gain a much more accurate view of important business metrics, such as the number of customers in your marketable database, accurate counts of and insights into customer segments, and the ability to understand whether your efforts are increasing customer lifetime value and driving higher profits.



**SECTION 03**

**IDENTITY  
RESOLUTION  
APPLICATIONS**

Optimizing Customer  
Engagement





## Identity resolution has many practical applications for marketers looking to optimize customer engagement.

### **MARKETING LISTS**

Multiple messages to the same person on email or direct mail lists are costly to deliver and annoying to receive. Identity resolution can remove duplicates whether they result from the same person appearing on multiple lists or from duplication within a single list. This reduces bounce rates and unsubscribes while improving open and click rates.

### **AD TARGETING/RETARGETING**

Targeting specific customers with ads can be challenging in the absence of unique identifiers. You know who your customer is, but how does the site they are visiting know? While cookies can help, you don't always have that option. Identity resolution can provide insight into the identity of site visitors based on a range of attributes and thus improve targeting accuracy.

### **CROSS-DEVICE TARGETING**

It is possible to target customers based on the devices used, rather than on personal identifiers. The devices may be linked to known individuals or not. Identity resolution can be used to connect devices and then used to connect a person to a particular device.

### **WEBSITE PERSONALIZATION**

Identity resolution can connect a website visitor to their unified profile and use this data to select optimal web content for that individual.

### **CUSTOMER SERVICE**

When customers engage with your brand via the phone, call center agents can rely on identity resolution to access customer data in real time. This allows the agent to personalize the interaction based on the existing customer profile. The agent can then update the customer profile after the call is completed, seamlessly keeping the customer record current.

### **OMNICHANNEL ENGAGEMENT**

Cross-channel identity resolution makes truly coordinated customer engagement possible. It does so by identifying customers wherever they appear and orchestrating relevant interactions across channels.

**SECTION 04**

**IDENTITY  
RESOLUTION  
METHODS**

Does Your Solution Do  
All of These?



## **LINKING ALL IDENTIFIERS**

Identity resolution capabilities rely on a number of methods to connect customer interactions to customer profiles. At the most basic level, identity resolution relies on the fact that every interaction involves a range of identifying data points. Resolving identities thus involves determining which identifiers belong to the same person and then linking all identifiers for a person to persistent master identifiers.

Identifiers include names, addresses, email addresses, phone numbers and so on that are directly tied to an individual. Similarly, a specific device – a cell phone, a mobile device, a computer – can also be associated with a specific individual. Although they may be inherently anonymous, web cookies can also be used as identifiers if they have been resolved into the single profile.

Casting an even wider net, several non-unique identifiers that can apply to many individuals – birthdates, zip codes, employers, presence at a particular location – might be part of a unique combination that fits just one person, even though none of this data taken separately does.



## There are several techniques for using identifiers to resolve identities. Your identity resolution solution should be able to use all of them.

### **EXACT MATCHING**

Exact matching involves resolving identities using the same identifier found on multiple records, whether those records come from different sources or from the same source over time. It's the simplest identity resolution method and can be used in many situations, especially when a customer logs into a system using an account name or number. Although resolving identities based on an exact match is simple, it is often wise to use additional authentication methods, such as passwords, to ensure the person really is who they say they are.

### **DETERMINISTIC MATCHING**

Deterministic matching is based on a known relationship between two identifiers. Common examples are names, postal addresses, email addresses and phone numbers. Once these are accepted, any one of them can be used to identify the customer. Typically these individual identifiers are linked to a master ID, making it easy to link new identifiers to a particular customer.

Deterministic matching can also be behavior-based. For example, if a customer opens an email on a mobile device, that device is then deterministically matched to that email and, in turn, to the customer's master ID. Deterministic matches are slightly less certain than exact matches; someone might open an email on a shared machine, for instance. Your identity resolution system needs to be able to adjust for such situations.

### **SIMILARITY MATCHING**

Similarity matching resolves identifiers that, despite small variations, may still refer to the same person. The primary application here is the resolution of postal addresses, which frequently exist in multiple forms since mail can get delivered despite differences in format or spelling. It can also be used with email addresses, which may match on name components (e.g., JDoe@company.com and john.doe@company.com).

Another flavor of similarity matching is device "fingerprinting," which relies on device attributes such as model number, operating system version, and apps installed.

### **PROBABILISTIC MATCHING**

Probabilistic matching draws on behavioral or other data not related to a specific identity. For example, it can be used for cross-device matching by linking devices that are frequently used in the same locations at the same time, visit the same websites, or do other things that suggest they have the same user.

Probabilistic matching may also analyze personal behavior patterns and non-unique data points such as birthdates or postal codes. Like similarity matching, probabilistic matching relies on complex algorithms to determine when there is enough correlation between two entities to make a link.

### **REFERENCE MATCHING**

Reference matching is based on data provided by someone outside of your company. This can involve, for example, purchasing links between identifiers rather than deriving them directly from your company's own data. The advantage of reference matches is they are based on much more data than most companies can gather for themselves, meaning they reveal many more connections.

**SECTION 05**

**WHAT IDENTITY  
RESOLUTION  
TOOLS SHOULD  
DO FOR YOU**

Validate, Enhance, Deduplicate





Your CDP's identity resolution tool should offer comprehensive data standardization, validation, deduping and enhancement of omnichannel customer data profiles. These profiles should also be updated continuously and accessible for every type of customer campaign and engagement.

### **STANDARDIZE AND VALIDATE YOUR DATA**

As with everything data-related, you need to start with data that you can trust. Standardizing and validating data means that users can rely on it as a single source of truth without worrying about its accuracy. This can include standardizing contact records, genderizing names, validating postal addresses, checking emails for proper syntax and ensuring phone numbers are standardized and corrected to geographical formats.

Standardizing and validating data will help with operational efficiency as well. You can avoid having your call center agents try to reach out to invalid numbers, remove invalid addresses from direct mail campaigns and reduce the number of emails sent through the suppression of invalid domains.

Standardization and validation should also help you remove dummy values. For instance, two different people could both have said that their emails were none@gmail.com. You don't want to match them, as they are likely different people. This will prevent having hundreds of records improperly rolling up to a single contact. Your identity resolution tool should be able to catch these and apply the appropriate treatment.

## **ENHANCE YOUR DATA FOR OPTIMAL VALUE**

Once you have standardized and validated the data, you can increase its value by enhancing it. This entails bringing different types of data together into a single customer record, including attaching third-party data. Once third-party data – such as change of address registries or social media profiles – is connected to the master customer record, you can update and refine the record's attributes (name, email, address, etc.).

For example, if a contact has five emails, data enhancement can help you eliminate the emails that are invalid or that have unsubscribed, or help you select the email that gets opened most frequently. Likewise, you can apply nickname dictionaries so that when you search for Williams, you can also consider Bills.





## ***DEDUPLICATE YOUR RECORDS WITH FLEXIBLE MATCHING RULES***

Once your data is standardized, validated and enhanced, it is time to deduplicate it. Not all of your data sources will capture the same information. Typically, an e-commerce website will have a high postal address capture rate, while a call center is more likely to capture phone numbers. A customer may also have created two accounts with different emails but with the same loyalty ID or postal address. Hence, a good identity resolution tool will enable you to combine several matching rules to resolve these duplicate records.

While the likelihood of multiple people sharing the same email address is low, the likelihood of multiple people sharing a home address is relatively high. For this reason, you won't want to look for duplicates based solely on address matches; you'll want to combine the first and last name with the address fields. Likewise, if you are concerned about home phone

numbers being shared, you may also want to check the first name when the phone number matches between two records. Your identity resolution tool should give you the flexibility to combine fields when defining the matching rules.

Finally, typos and variants happen and standardization will not catch all of them. Having some room for fuzziness, such as when customers make a mistake in the street number, misspell a word or give a shortened version of their name (Mike vs. Michael, Jess vs. Jessica, etc.), is also critical.



**SECTION 06**

# **CHOOSING A CDP**

**Not All Have Robust Identity  
Resolution Capabilities**



Identity resolution is the key to improving the quality of your customer engagement efforts and getting a more accurate picture of business performance. Whether your customers are tied to different IDs in siloed systems (e.g., POS, e-commerce, customer care center, email or SMS execution systems) or whether a customer has created two different profiles in the same system, identity resolution provides the clearest path to a full and accurate understanding of your customer base.

[Acquia Customer Data Platform](#) is equipped with a built-in Identity Resolution Engine (IRE) that continuously monitors every customer interaction to accurately resolve customer identities.

At Acquia, we have found that our clients can increase the number of repeat buyers by 23% on average when they apply identity resolution to their customer database. These results underline how likely it is that a large part of your contact base is not currently receiving the appropriate messaging.

Acquia CDP's Identity Resolution Engine unifies siloed customer data to create a 360-degree customer profile that encompasses their full journey over time. The IRE accomplishes this through a configurable four-step process: data standardization, data validation, stitching and deduplication.



# WANT TO LEARN MORE?

For more on how Acquia CDP prioritizes data quality and drives customer lifetime value, check out our e-book: **Working with Customer Data: From Collection to Activation.**

**GET THE E-BOOK ▶**

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## **ABOUT ACQUIA**

Acquia is the open digital experience platform that enables organizations to build, host, analyze and communicate with their customers at scale through websites and digital applications. As the trusted open source leader, we use adaptive intelligence to produce better business outcomes for CX leaders.

