Customer Data Platforms and Multi-Channel Decision Management

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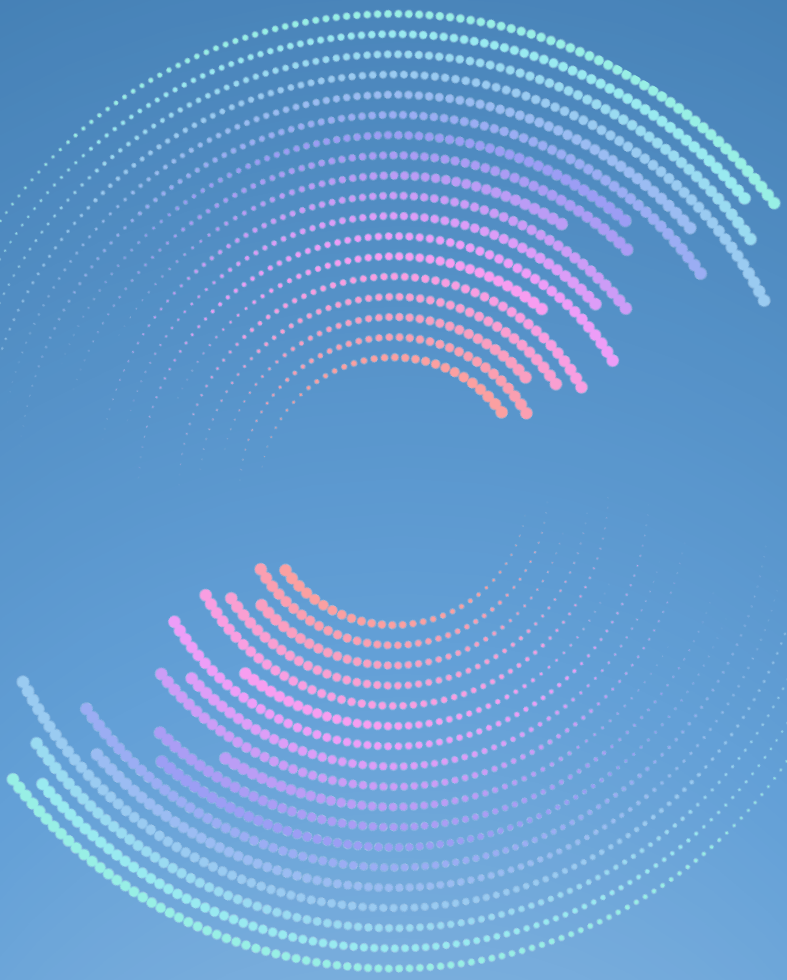
In collaboration with BlueVenn



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White Paper

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Introduction

Today's marketers are in a tough position. On one side are customers who demand a personalized experience: 79% only choose brands that show they understand and care about "me"[1], and 68% have actually stopped doing business with a brand due to poor customer experience.[2]

On the other side is reality: only 23% of marketers have a complete view of their customer data[3] and barely half (53%) collect even something so basic as transactions.[4]

It's a big gap to cross. Unified data is the foundation for a unified customer experience. But today's customer data comes from many systems: a large company can easily have more than 100 sources. That data needs to be gathered and linked to customers who have different identifiers in different systems. The linked data itself then needs to be standardized, aggregated, analyzed, reformatted and made available for other systems to use.

All this needs to happen continuously and despite frequent changes in the source systems, products, channels and customers themselves. No wonder most companies haven't made it happen.

[1]. Wunderman, Wantedness, January 2017
[2]. Microsoft, 2016 State of Global Customer Service
[3]. CMO Council, Customer Experience Dynamics, 2017
[4]. BlueVenn, How Are Marketers Using and Analyzing Customer Data?, 2017

CDPs: Closing the Customer Data Gap

Customer Data Platforms (CDPs) are here to help. A CDP is a marketer-controlled system that builds a unified, persistent customer database that is accessible by other systems. It's a relatively new category – the term 'Customer Date Platform' itself was only coined in 2013 – taking advantage of the latest developments in marketing and data technologies. Differences between CDPs and older solutions include:

Packaged software

Companies have traditionally assembled unified customer data by creating custom-built data warehouses or marketing databases. Like any custom software project, those were difficult to design, costly to build and often failed to deliver the desired capabilities. Marketing systems were especially prone to failure because the requirements were often poorly understood, changed rapidly over time and unfamiliar to corporate IT teams more used to working with operational systems. CDPs are prebuilt systems designed by customer data experts and configured to meet client-specific needs. This configure-not-customize distinction is what lets them be marketer-run.

Unified customer data

Linking data from different systems that relates to the same customer is the most specialized of all customer data management skills. Web cookies, email addresses, telephone numbers, postal addresses, mobile apps, devices and customer account numbers are all different identifiers with no natural connections. Source systems must be:

- **Scanned for linkages provided by the customer (say, an email address and phone number both entered into an account record)**
- **Deterministically inferred (an email sent from a device)**
- **Probabilistically inferred (two devices that appear to belong to the same person because they are frequently used in the same places at the same times)**
- **"Fuzzy" matched (similar names and addresses)**

Linkages must be maintained over time to maintain persistent identities as people change addresses, get new devices, drop and add cookies, and make other changes. External data is often applied, such as files to verify postal addresses or to report a move from one location to another. These processes are built into CDP systems. Otherwise, developers would need to build them from scratch or string together several partial solutions.

Persistence

The CDP is designed to ingest and store the customer data, not simply route interactions from one system to another. This contrasts it with integration platforms or data hubs that are designed to manage specific processes that run across multiple systems, such as onboarding a new customer, processing an order or replacing multiple data collection tags on a Website.

Persistence is absolutely essential to build a complete customer history because source systems often don't keep old versions of data that has changed, such as previous addresses or predictive model scores. Such data can be critical for understanding a customer's current condition and likely future behaviors.

That said, there are also situations where the CDP does need to access external data instead of importing it, such as checking a current account balance, product inventory or local weather conditions.

Access by other systems

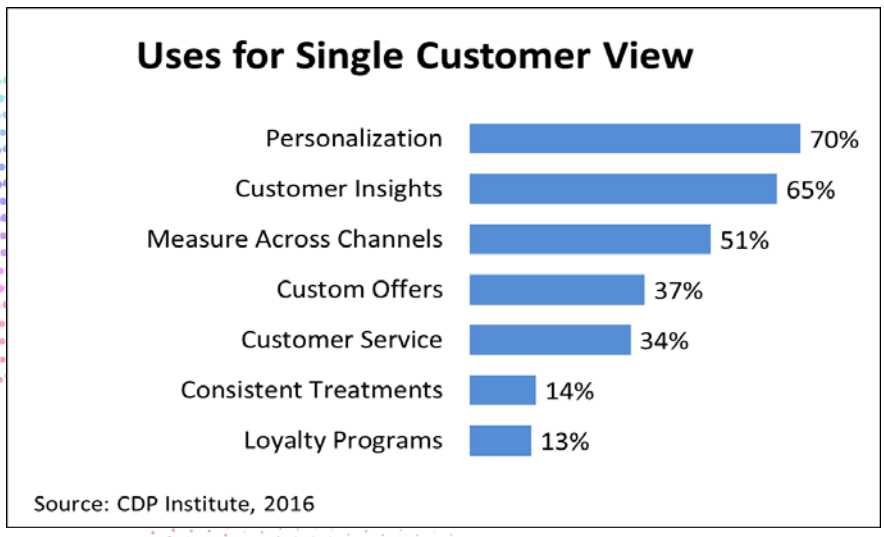
Many marketing systems assemble a customer profile for a specific application, such as personalization, marketing automation, predictive modeling, revenue attribution or customer support. These systems store the data in ways that are best suited to their primary application, which often involves a specialized format or summarization to allow quick response and efficient processing. Many allow no external access whatever to the profiles they've built.

A CDP is designed specifically to allow such access, which usually means providing APIs, SDKs, support for SQL or similar queries and file export options. Some CDPs offer additional support for external access such as options to create indexes and summary tables to meet special needs. Many vendors have prebuilt connectors to common systems such as email, marketing automation, ecommerce and CRM platforms. This further speeds up and simplifies deployment.

Unified Data Isn't Enough

Just constructing a unified and accessible customer database would be a huge step forward at most companies. Remember, fewer than a quarter have such a database today. Indeed, CDP Institute research has found the most common applications for a single customer view are personalization and insights, which can be accomplished simply by feeding data to external systems that then function independently of each other.

But to really meet customer expectations, marketers must move beyond sharing basic data. They must deliver consistent treatments across channels. This can be done with a central orchestration engine that actually selects treatments for channel systems to deliver, or by creating advanced data, such as segment codes and recommended offers, which can help independent channel systems to act consistently.



Some examples of channel-spanning and consistent coordination from a central orchestration engine include:

- **Direct mail that directs recipients to a personalized Web page**
- **Web display advertising that re-contacts Web site visitors**
- **Email messages after an in-store retail purchase**
- **Online surveys after a telephone call with customer support**
- **Telephone calls after a Web chat**
- **Mobile app messages alerting customers that a product they viewed on the Web site is now on sale**

Done properly, this sort of coordination is seen as a valuable service, not an invasion of privacy. Indeed, as we've already seen, customers are likely to be annoyed if no coordination takes place. It's up to marketers to make the coordination helpful not creepy.

How CDP Data Helps to Coordinate Treatments

The fundamental role of the CDP in coordinating customer treatments is to build the unified customer database. This ensures that segmentation, targeting, recommendations, personalization, and other systems have the best data possible to make the best possible decisions.

But the CDP provides additional benefits that are not quite so self-evident. These include:

Faster activation

The CDP can ensure that data captured in one channel is quickly made available to all other channels. Call center agents are aware of Web site visits; Web display ads are adjusted to exclude recent purchases. Many customers find the lack of such awareness extremely annoying. Without a CDP, each system would need to directly message all other systems when something happens.

With a CDP, each system sends alerts only to the central database and checks only the central database for a complete view of current information. This is much faster, simpler, more reliable and enables a truly multichannel way of thinking.

Real-time access

Some source systems might not allow real-time access to their current data and some channel systems might not be able to accept real time updates. The CDP provides an intermediary that can accept real-time updates from systems which provide them and allow other systems to read that data in real-time when they need to. This makes it easier for Web sites, mobile apps, call centers, and other systems to have a complete data view when they interact with customers in real-time.

Result analysis

Customer behaviors flow into the CDP as soon as they become available and are quickly integrated with existing data. This lets marketers assess the results of marketing programs as quickly as possible, giving maximum time to make adjustments. This faster learning cycle yields better results over time.

Integrated analytics

Nearly every CDP provides at least basic segmentation and reporting, while some have much more comprehensive features for machine learning, predictive modeling, recommendations, and other advanced analytics. Even CDPs without integrated analytics make it easy to share data in standard formats with external analytics products or business intelligence platforms. This greatly reduces the time that analysts spend on data preparation, making them much more productive.

Longitudinal customer view

The CDP can organize customer data on a timeline, which isn't always the case with other systems. This time-oriented view supports journey analytics and management, lifetime value calculations, marketing measurement, revenue attribution, and other functions that are critical to understanding customer behaviors and optimizing customer treatments.

CDP Plus Decision Management

The benefits listed previously are delivered by the customer database functions of the CDP. But some CDP vendors include engines that directly coordinate the customer treatments. This adds complexity but offers substantial benefits, including:

Easier integration

A decision engine within a CDP can be designed to access CDP data directly (and of course provides optimized use of the data). This reduces integration effort and lets the decision engine take advantage of specialized data structures that improve marketing performance. Although a CDP by definition makes its data available to external systems, there are still advantages to close cooperation between the data management and decision engine functions.

Multi-channel programs

A central decision engine is designed from the start to include messages across multiple channels. Using these features is much simpler than trying to synchronize separate decision engines in single-channel systems. Similarly, the CDP decision engine is natively designed to integrate with external channel delivery systems. This makes it more flexible than a single-channel engine that is likely designed to work with its own delivery engine or a limited range of delivery tools.

Multiple programs

Customer treatment decisions are typically organized into programs that deliver a stream of coordinated messages. A truly integrated customer experience requires coordination of customer treatments across these programs. The CDP decision engine has access to all customer data and program flows, which lets it easily create processes that take advantage of this comprehensive view. These processes range from fairly simple features, such as limiting and prioritizing the messages sent during a specified time period, to moving customers from one program to another appropriately.

Reaction time

Because the CDP decision manager is working directly with comprehensive customer data, it can react quickly to individual and program results. Individual results might move a customer from one program to another, change messages within a program, or halt promotions if a customer has a service problem. Program results might identify programs that are over- or under-performing, allowing marketers to make appropriate changes.

What to Look For

As we've seen, some CDPs are designed only to build the unified customer database while others offer additional functions, sometimes including a decision engine to manage customer messages. Each function has its own requirements:

Customer Data Management

Accept all data types: Today's marketing systems generate structured data such as transactions, semi-structured data such as Web logs, and unstructured data such as social media posts and chat logs. The CDP should be able to work with all of these and to accommodate new feeds with minimal effort.

Unify identities: Different data sources have different customer identifiers. Some of these will be linked in the source systems but others will only come together within the CDP itself. The CDP needs features to link these identifiers to the correct customer. In particular, because many CDPs focus primarily on online data, companies that work with offline identities such as postal addresses must look carefully for a CDP that handles online and offline data effectively.

High speed ingestion: Customers expect all your systems to be immediately aware of activities in all other systems. This isn't always possible but your CDP should still be able to process data as quickly as you need it and the source systems can provide it. It's important to look at the entire processing cycle, from initial ingestion to internal preparation to exposure to external systems. This involves multiple steps that must be considered separately and the CDP vendor can educate you in this requirement.

Real-time access: Real-time access by external systems is a specialized feature that not all CDPs provide. If you need it, define carefully exactly what kinds of data must be available, how you expect to receive the access requests, and how quickly the results must be made available. Note that some "real-time" applications can wait for a full second or longer for response, while others may need results in 10 or 20 milliseconds.

Integrated analytics: The analytical features available in CDPs vary widely from almost nothing to exquisitely advanced. Which matter to you will depend on your business needs and what other resources you have available. One point that's nearly always important is to be sure you will have access to the original data detail, not just summaries created during the ingestion process. This matters because new analytical processes often require looking at detailed data in ways that previous processes did not.

Decision Management

Channel connectors: The decision engine should connect with multiple channel systems, typically through APIs. Look for systems with prebuilt connectors and well-documented, richly-functioning APIs to create custom connectors.

Personalized content: The decision engine should be able to pick the right content for each individual, not simply work with segments of customers who are treated identically. Individual-level choices typically require automated tools such as predictive analytics or recommendation engines to choose among all the available options. In addition to selecting the content, the decision engine needs to communicate its choice to the channel systems that will deliver the message.

Multi-channel programs: The decision engine must be able to connect with different channel delivery systems and specify which channels will receive which messages. This might involve rules that select the channel based on customer preferences, delivery speed, or cost.

Multi-step programs: The decision engine should be able to deliver sequences of messages within the same marketing program. This is usually defined with a flow chart interface to visually show the message sequence and can branch in different directions depending on customer behavior as the program unfolds. Without visualization, it can be very difficult to understand and maintain the program flows over time, particularly with multiple and potentially overlapping campaigns all active at one time.

Move between programs. Customers typically enter a marketing program based on specific conditions or events, such as a entering a segment or making a new purchase, and then stay in that program for some time. The system should offer an ability to interrupt this process if it's appropriate to move the customer to a different program instead. Vendors implement this in different ways; be sure to select a system with an approach you find usable.

Lifecycle journeys. Many marketers conceive of their customers as being on a journey through different lifecycle stages. This provides a framework for defining relationships among individual programs and for moving customers from one program to another. Features related to journey management include definitions of journey stages that persist separately from programs, access to journey stage as a factor in treatment decisions, triggers when customers move from one stage to another, and stage-related reporting such as number of customers in each, scoring, time spent in each stage, and patterns of movement between stages.

Real-time interactions. The decision system should be able to respond to customer behaviors in real-time in channels such as Web site, mobile apps, and call centers. This requires tight integration with the channel systems to identify the customer, capture their actions as they occur, react to those actions with messages or other treatments, and capture the customer's response. Real time interactions generally require real time access to CDP data, but sometimes use data stored outside the CDP to enable quick response.

Integration Management

Data access: The decision engine should have direct access to the CDP data. This may involve access methods not available to other systems, such as special API calls.

Segment conversion: Segments created with CDP segmentation features should be immediately available to the decision engine to use in making program decisions.

Response analysis: Responses to marketing programs run by the decision engine should be built into the CDP data model and should be part of standard response reporting.

Unified interface: The data management and decision engine should have a consistent, unified user interface. This applies especially to features such as segmentation and query building which are used in both components.

User rights management: While the user interface should be consistent, it should also be possible to specify which functions are available to which users. This becomes more important as the CDP provides more functions, since this means it will have a wider range of users with different business roles, skills, and needs.

Conclusion

Customer Data Platforms fill a critical gap in many companies' marketing technology resources by providing a unified view of customer data. But unified data is only the start: real value comes when the data is converted into an effective decision engine to utilize the data to its fullest. This could be for analysis, segmentation, personalization and/or customer journey orchestration.

Combining a CDP and decision engine in the same system has important advantages in enabling cross-channel programs, speeding up deployment and reducing cost and complexity. It's not the right choice for everyone but is definitely worth a look.

ABOUT THE AUTHOR

David M. Raab has more than thirty years experience as a marketer, consultant, author and analyst. He has consulted with major firms in financial services, health care, telecommunications, publishing, consumer goods, technology and other industries.

Along with being Principal of consultancy firm Raab Associates, he is founder of The Customer Data Platform Institute (CDPI, www.cdpinstitute.org).

David has written hundreds of articles on marketing issues and addressed audiences in North America, Europe, Asia and Australia.

ABOUT BLUEVENN

BlueVenn provide multi-channel campaign management software to over 400 clients across the world, enabling marketing teams to quickly and easily analyze their customers, executing campaigns and customer journeys across all available channels.

As a Customer Data Platform, the BlueVenn browser-based tool collects, structures and analyzes infinite data sources into a Single Customer View. This empowers everyday marketers to orchestrate real-time, personalized, multi-channel customer journeys and campaigns.

BlueVenn has headquarters in the US and the UK, serving clients across 15 countries. For more information, visit www.bluevenn.com

Want to talk about Customer Data Platforms and Single Customer Views?

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