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Arm Treasure Data Special Edition

Enterprise Customer Data Platform

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About Arm Treasure Data

Arm Treasure Data enterprise Customer Data Platform (CDP) unifies data from multiple sources - online, offline, and IoT device generated data - and empowers enterprises to disrupt markets with superior customer experiences. Our clients are creating transformational customer relationships by connecting the data dots with CDP, achieving more profitable business results.

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Introduction

Digital disruptors who know how to make the most of technology have fundamentally changed the way we do business. Amazon, Facebook, Google, Netflix . . . they understand that success lies in inspiring deep customer delight that drives loyalty. They also know that customer data is at the foundation of how they can deliver their unique experiences. Data drives every decision, every customer interaction, and it's the primary reason why these select few companies are winning. Add to this the fact that disruptive technologies like artificial intelligence, natural language processing, and computer vision are maturing — going from game-changing ideas to mainstream, foundational business tools. All of this means that customers — your customers — now expect this level of experience, personalization, and convenience.

If you're a marketing professional who is interested in learning how to leverage your customer data and increase your competitive advantage, you've come to the right place.

In this book, we outline how an enterprise *customer data platform* (CDP) functions and enables you to really understand your customer, engage in personalized ways, and measure that success. An enterprise CDP is a software platform that can capture all your customer data from multiple channels and consolidate it in a single, unified source, allowing you to deliver a hyper-personalized customer experience.

You find out how to evaluate the options available to you in the market, how to get started, and how you can take advantage of an enterprise CDP to deliver the experience your customers now demand.

About This Book

This book explains how an enterprise CDP gives you a complete, 360-degree view of your customer. An enterprise CDP manages your data so that you can focus on delivering personalized campaigns, product engagement, shopping experiences, and more.

This book has eight chapters that explore the following:

- » **Chapter 1:** In this chapter, you look at the importance of customer data to your overall marketing and customer experience efforts, as well as the challenges brought on by the vast amount of customer data sources that exist today. You also learn about the different data types and how to differentiate between the various types of customer data management systems.
- » **Chapter 2:** In this chapter, you learn about the enterprise CDP and how it gives you a single, unified view of your customer data. You get a better understanding of how an enterprise CDP enables you to provide each customer a personalized experience. You find out what an enterprise CDP can do for your business and what capabilities are required to deliver the value you expect.
- » **Chapter 3:** This chapter helps you understand how to put your data to work for you. You learn what's necessary to optimize data analysis activities and how to build dynamic customer segments to power your marketing campaigns. You find out what it takes to effectively target your customers across all channels for personalized engagements that grow your business.
- » **Chapter 4:** In this chapter, you discover how marketing powered by artificial intelligence (AI) can elevate engagement along the customer journey and improve your campaign results. You get a better sense of the predictive use cases that can optimize your campaigns and the results you can expect, such as an improved lead scoring and decreased cost-per-acquisition. You see how these sophisticated capabilities can be made available to you without specialized machine learning expertise.
- » **Chapter 5:** In this chapter, we explain the capabilities of the enterprise CDP to offer the performance, flexibility, scalability and security that an enterprise demands, as well as the importance of security. You also investigate your requirements around the General Data Protection Regulation (GDPR), a legal framework for the collection and processing of personal information of individuals residing in the European Union (EU).

- » **Chapter 6:** In this chapter, you get real-world examples of companies that have successfully leveraged an enterprise CDP to deliver a personalized experience and gain a competitive advantage. We take you on a tour of companies across industries: e-commerce, retail, and automotive.
- » **Chapter 7:** In this chapter, you get insights on how to select the enterprise CDP that's best for you.
- » **Chapter 8:** You get answers to ten common questions about enterprise CDPs.

Icons Used in This Book

In this book, we use the following icons to grab your attention. Here's what the icons mean:



TIP

The Tip icon points out anything that'll save you time, money, or headaches, or just generally make your life easier.



REMEMBER

When we point out core information that you should take away from a topic, we flag it with the Remember icon.



WARNING

The Warning icon points out challenges of digital marketing and CDPs and tells you what to avoid.

Beyond the Book

There's only so much we can cover in a book of this size, so for more information on enterprise CDPs, please visit www.treasuredata.com.

IN THIS CHAPTER

- » Using customer data in your marketing approach
- » Looking at first-, second-, and third-party data
- » Understanding the basics of customer data and management systems

Chapter **1**

Harnessing Customer Data to Deliver a Great Customer Experience

In this chapter, you look at the importance of customer data to your overall marketing and customer experience efforts, as well as the challenges brought on by the vast amount of customer data sources that exist today. You also learn about the different data types and how to differentiate between the various types of customer data management systems.

If you're ready to learn more about how to harness your customer data and make insight-driven decisions to provide a better customer experience, then read on!

Customer Data and Your Marketing Strategy

A radical, seismic shift in consumer behavior and expectations has occurred over the last several years. Today's empowered customers have access to more information, choices, and

channels — redefining the “ideal customer experience” almost daily. Customers decide what they want, and where and how they want it. The result is that consumers now dictate the terms of engagement with businesses like never before.

Technology is increasingly central to how individuals experience the world around them. It’s shifting the center of gravity from businesses to individuals in an unprecedented way. Catering to users’ preferred ways of consuming information, engaging with brands is becoming an increasingly critical part of the business strategic value proposition and competitive differentiation.

Digital disruptors like Airbnb, Amazon, Facebook, Google, Netflix, and Uber have grasped the opportunity for a new and different way of doing business, paving the way for this new customer experience. Success in today’s market demands not only that you ride the wave, but also that you ride a bigger wave, with more skill and finesse than your competitors.

Delivering personalized experience at scale

What these digital disruptors all have in common is that they deliver a personalized customer experience, at scale, to millions of customers — and all have changed consumer expectations. Consider the following companies:

- » **Airbnb:** Delivers personalized hospitality
- » **Amazon:** Provides personalized commerce
- » **Facebook:** Delivers personalized communication
- » **Google:** Delivers personalized information
- » **Uber:** Delivers personalized transportation



REMEMBER

Today’s customers increasingly buy based on experience, rather than product or even price. The one thing that Amazon has demonstrated to every brand on the planet is that the digital customer experience matters! Amazon is no longer a site where you go to “buy” something. Instead, you go there to spend time to “discover” what you need and you buy with price not as a primary focus.



TIP

Today customer experience is the new brand — and winning requires data.

Ironically, as data has exploded, the ability for companies to easily leverage that data has imploded. Organizations are drowning in their own information, unable to effectively locate, unify, use, and interpret their own data. Companies have a business need and a (big!) data problem.

Facing the challenges of harnessing customer data

Imagine you're researching a car online and you find exactly the car you want. You go to the dealership and buy the car, but later you receive an online offer for the same car that is less than what you paid for it. Obviously, you'd be frustrated about not receiving the offer when you were researching the car in the first place. You'd also be less likely to buy from that car maker or recommend the brand to friends or family if you felt you had a negative experience. A brand can't afford this kind of damage. But what makes getting this right so difficult? In simple terms, the answer is because the customer is everywhere and so is the data about the customer's behavior.

Let's return to the car purchase example: When you're researching which car to buy, you may watch videos on the manufacturer's website and browse car shopping apps and pricing websites. You might click on auto ads on Facebook and open promotional emails. You're certain to search Google for vehicle type, size, features, and reviews. And finally you'll visit dealer locations for model availability and test drives.

The customer journey intersects numerous teams throughout a company and the extended business ecosystem. And these interactions happen across a wide array of channels and devices, far beyond the digital world, including point of sale (PoS), websites, mobile, custom apps, and the Internet of Things (IoT), as shown in Figure 1-1. This leaves most companies with information about customers stored in many different places. The information is not brought together or shared across the organization, leading to a disjointed and negative customer experience.

The digital disrupters mentioned earlier have figured out how to create an engaging experience and how to deliver the right experience at the right time. Companies can only do that if they have a unified, holistic, and actionable view of each customer. Most marketers recognize the need for a single, unified customer view, but it's out of their reach. Why?

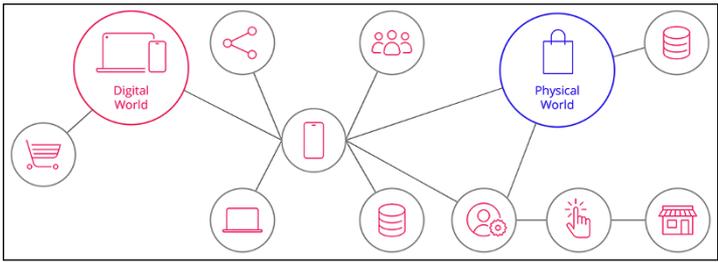


FIGURE 1-1: The challenge of a disjointed customer journey.

- » **Technology and organizational silos:** As companies struggle to gain value from the information explosion, more technology tools, systems, and applications are added to the arsenal. Each serves a particular need, but these point solutions generally don't integrate easily. In addition, these solutions are often under the control of different departments operating with a focus on their own priorities.
- » **Too many marketing tools:** Making data actionable also requires integration with a wide range of marketing tools. The average enterprise uses 91 cloud marketing services, according to Netskope. Each team has its preferred tools. And each team wants to have control over the systems that assist it in reaching its objectives.
- » **Lack of technical expertise:** IT resources always seem to be in short supply. Other projects take priority or specific skill sets are unavailable. Although self-service and cloud technologies sound like an easy answer, marketers themselves prefer to deliver the customer experience and focus on outcomes, not technology.

Understanding the basics of data to deliver personalized experiences at scale

Data is abundant and comes in many formats, from many sources. All this data means nothing if you can't unify, analyze, and act on it. And now more than ever, using data in a responsible manner, in compliance with data privacy laws and with the full respect of your customer in mind, is paramount.

Let's use an example: Laura searches on a website without logging in to its online store. She buys one item online and another from a physical store location. Laura also made purchases on prior dates. As data comes in from each interaction, Laura will likely be known as a different person with a different ID for all but those logged-in, online transactions. As a result, the messages and overall experience she receives will be fragmented and not representative of the overall experience she has with the brand. By uniting this data under one ID for Laura, her behavior can be analyzed across her entire customer journey.

The data flow for personalization begins with unifying event-level data (see Figure 1-2a). Event-level data lets you find the buying signs prospects leave for you and turn anonymous visitors to known users and known users to loyal customers.

Event-level data may be unknown to you. Extending the previous example, Laura paid with a credit card. Unbeknownst to you, the credit card company added 50 additional fields of information. The right system will capture this information for you.



TIP

Capturing, uniting, and storing the data in a responsible manner, though challenging, is only the beginning. The data must be readily accessible for analysis over time and across your organization (see Figure 1-2b). *Persistent data*, or data saved over time, offers a richer, deeper understanding of your customer. Think about it: You need to be able to ask a question tomorrow that you never considered today.

Finally, you put those understandings into action (see Figure 1-2c). Customer segmentation directs your marketing and advertising campaigns. More refined segmentations result in better targeting, a greater level of personalization, and more effective campaigns. A platform that gives you control to put data into action to grow your business becomes an asset that builds competitive advantage.

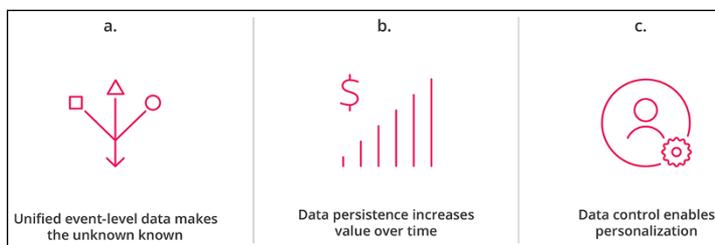


FIGURE 1-2: Data control is key to personalization.

Identifying the Types of Customer Data

Now that you know how important the responsible collection and use of customer data is to your marketing strategy — and to the survival of your company — let's dig into the details. We start with definitions for data types that we reference throughout this book: first-, second-, and third-party data.



REMEMBER

The term *customer* when referring to customer data has a broad reach and includes prospects. The customer relationship begins with your first touch. Consider prospecting as customer acquisition.

First-party data

First-party data is your data. It's information *your* company collects about *your* customers. This data originates from behaviors, actions, and interests demonstrated by customers at points of interaction such as your website, point of sale (PoS) transactions, subscriptions, social media sites, or mobile applications. This information often resides in your customer relationship management (CRM) systems, support systems, digital marketing platforms (DMPs), data warehouses, and other historical databases.

Because first-party data is collected from your own audience and customers, it generally holds the most credibility and value. Even better, you didn't directly pay for it. You own and control it, and privacy concerns are between you and your customer.

Second-party data

Second-party data is first-party data owned by a company with whom you have a relationship, frequently a business partner. The terms of trade vary from a negotiated sale to joint agreement. The sharing of this high-quality, first-party data owned by another source offers access to audiences and a near introduction to prospective customers.

Third-party data

Third-party data is generated on other platforms, collected via registrations, and aggregated from other websites. Many companies sell third-party data, and it's accessible through many

different vendors. Third-party data is the least-specific type of data because it doesn't contain any direct information about a customer; instead, it's data inferred or declared for a given demographic.



Often the quality of third-party data is in question because of the lack of customer correlation, no validation, and tendency to be older and out of date. Plus, it's available not only to you but also to all your competitors. Third-party data becomes attractive when you can unite it with first- or second-party data.

Looking at the Available Customer Data Systems

As more and more systems developed to manage customer data over time, this created data silos. Data silos present a significant hurdle and often require costly and long integration projects. A large part of the reason is the fact that most customer data originates in systems that weren't designed to share it with anything else. The difficulty of getting various systems to talk to each other leads to these data silos.

From a user's perspective, the key differentiation of customer data management systems align with the scope and scale of the data and the flexibility to collect, analyze, and utilize that data (see Figure 1-3). For a clearer understanding, let's look at how these systems evolved on our quest to leverage customer data.

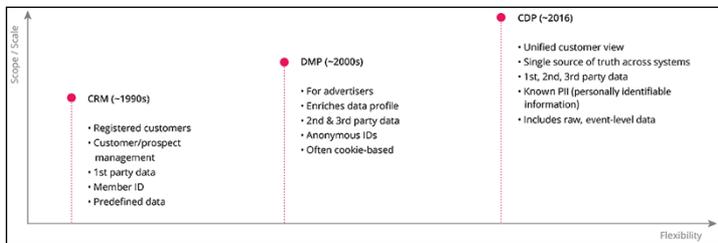


FIGURE 1-3: The rise of the customer data platform.

Customer relationship management (CRM) systems came into being in the early 1990s for the purpose of collecting lead, account, and customer information. CRMs collect clearly defined details

for first-party data (your data) about known customers and prospects. Customer profiles are assigned a member ID.

Systems like Salesforce prove highly useful for the sales cycle and some marketing activities. They are not intended to provide a holistic view of the customer. Data for a CRM system is predefined and not behavioral in nature.

With the development and pervasiveness of the Internet in the 2000s, data management platforms (DMPs) arrived primarily for use in advertising. Third-party DMPs leverage cookie data to target users on ad networks, while first-party DMPs use personally identifiable information (PII) for digital marketing and advertising. Even as capabilities for DMPs increase, they are not intended to create a single, unified view of your prospects and customers across physical and digital worlds.

After a couple of decades of companies adding CRMs and DMPs to their marketing arsenal, they now find themselves with data silos across their teams and their organization. The explosion of data and data sources now compounds this problem. Many companies have custom loyalty applications, PoS systems, and IoT devices. Today customers expect companies to have a handle on all this data and to treat them as individuals based on all this data being collected. When the opposite happens, customers revolt by simply abandoning brands. As a solution to this data explosion, enter the enterprise customer data platform (CDP).

Marketers who are already using multiple systems to collect data (that is, most marketers) need to unify the data they've already collected into a single, persistent, and robust customer view.



REMEMBER

A system that is designed to unify customer data and make it accessible and actionable in real time to optimize the customer experience is known as a CDP.

IN THIS CHAPTER

- » Discovering what an enterprise customer data platform can do for you
- » Understanding how an enterprise customer data platform works
- » Unifying your data into a single view
- » Simplifying the data pipeline

Chapter 2

Introducing the Enterprise Customer Data Platform

In this chapter, you learn about an enterprise customer data platform (CDP) and how it gives you a single, unified view of your customer data. You get a sense of how an enterprise CDP enables you to provide each customer with a personalized experience. And you find out what an enterprise CDP can do for your business and what capabilities are required to deliver the value you expect. It's what you *do* with data that counts.

Understanding What an Enterprise CDP Can Do for You

An enterprise CDP enables a central, unified customer view allowing you to

- » Know your customer better.
- » Understand how your customer wants to engage.

- » Take action in meaningful ways.
- » Measure your success.

This data access empowers you to make data-driven decisions along the entire customer journey and to give each customer a personalized experience.

A deep understanding of your customer is certainly needed to deliver personalized engagement. Many companies, wanting to measure customer lifetime value, query their CDP for “Who is my best customer?” Amazon has proven that a focus on loyal, repeat customers yields positive sales results. Knowing your customer means understanding customer behavior at all touchpoints across the complete customer journey. For example, which customers purchase cat food every other week? Or how fast do customers want to receive the product?

An enterprise CDP enables you to personalize your customer interactions to upsell and increase retention. Opportunities to utilize a unified customer view reach beyond the selling of products and services. With a unified view of customer behavior, product teams enhance product features, such as a web or gaming application to present effective offers or build greater interest.

With a holistic view across the entire customer journey, you can bridge the physical and digital experience as in our example of the car purchase in Chapter 1. Retail companies often have an online presence as well as brick-and-mortar points of sale (PoS). Uniting the information and customer profiles across these channels is more important now than ever and it can power amazing results, such as with Shiseido, which achieved a 20 percent increase in in-store sales (see Chapter 6).

An enterprise CDP offers you several advantages to help you provide your customers the same hyper-personalization offered by giants like Amazon and Google. A CDP delivers

- » **Efficient digital marketing operations:** Create a centralized, customer data asset that marketing can own and manage.
- » **Data-driven performance:** Apply predictive science to customer segmentation to optimize ad spend.

- » **Right content, right time:** Coordinate campaigns in an omnichannel manner with maximum effectiveness.
- » **Increased conversion:** Provide contextual ads or content throughout the customer experience based on how customers will likely engage.
- » **Return on investment (ROI) validation of product development:** When you know your customer well, you can more accurately justify product ROI.
- » **Improved retention:** Fully personalize and optimize loyalty and support programs with a customer-centric approach.

The right CDP becomes a company asset that covers all these use cases and serves groups across the company. But how does a CDP actually deliver these capabilities? How does a CDP differ or interact with your existing marketing tools? Read on to find out the key factors.

How an Enterprise CDP Works

From a marketer’s perspective, an enterprise CDP unifies customer data from all data sources to create a single customer profile based on a definition. We tend to consider a customer as an individual, but customers for certain companies may be better defined as a family or a business. Profiles are analyzed to create audience segments that are then made accessible by your marketing tools. Your marketing tools deliver content and messages based on direction from the segmentation rule — the better the segment, the better the message (see Figure 2-1).

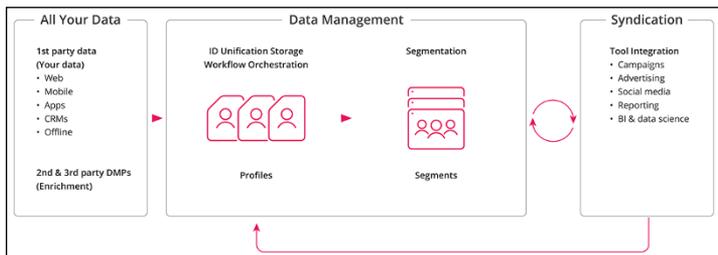


FIGURE 2-1: Data flow from collection to syndication.

Here's a high-level view of the data flow from data collection to syndication of segments for use in marketing tools, with an example customer named Laura:

- » **Data collection:** Data from all touchpoints along Laura's customer journey are brought together into one profile.
- » **Analysis:** Analysts research all customer profiles and determine what criteria makes Laura and others like her their best customers.
- » **Segmentation:** Detailed audience segments are created.
- » **Personalized engagement:** Marketing campaigns, deployed in your preferred marketing tools, access the segments to determine the appropriate action to take. Is a special offer made? Is an email or text sent? The marketing tools always utilize up-to-date profiles and segments.
- » **Full-circle integration:** All behaviors and transactions resulting from the campaigns automatically update the profile.

This data flow can occur in near real time. When Laura visits the website, and then leaves the site to research products and prices of other companies, a special offer can be made to Laura when she returns to your website.

Unifying Customer Data Sources for a Single View of Each Customer

Unify your data into a complete, holistic view of your customer. Everyone says this, but what does it really mean? It means complete integration with *all* your data sources — everything we've been talking about, including PoS, Internet of Things (IoT), web, mobile, and offline data. Some of these data sources may seem far-fetched or not a priority to you now, but data from your customer's increasingly fragmented customer journey is getting more varied and disparate — you need to think of all the data sources now to have a chance to compete with your competitors.



TIP

Take a moment to think of all the places where your organization collects and stores customer data. Many of these systems are owned by other departments and have distinct personal identifiers. Which of these data sources will be the system of record? Is that data source flexible enough to take all types of data? Which department will have control over the data? An enterprise CDP resolves these issues and allows you to do much more.

When an enterprise CDP collects data, there is no impact on or need to change any of the data sources. Ownership for each data source remains intact. Yet, you have full control over the data when the data has been ingested into the CDP.

Unifying data goes beyond integration. The information must be complete, which includes all data from various data sources along the entire customer journey and across time. Then all this information must be consolidated under a single customer ID. And of course, all privacy settings must be respected and adhered to as you collect and use customer data.

Let's say Laura makes purchases both online and in a physical store. She searches your site while logged in and as an anonymous visitor. She may contact your support team or returns department. You also have additional information about her interests and social media activity from a third-party source. Each system gives Laura a different ID.



REMEMBER

Your enterprise CDP must have unification logic to unite these IDs and to update these IDs as information changes.

Streamlining the Data Pipeline

Today's customers expect you to be able to identify them and personalize their experience across all their touchpoints and across all the systems that you may use both in real time or near real time. The digital disrupters have made this appear so easy that we sometimes forget the complexity involved.



TIP

By using the right CDP as a service, the complexity of the data pipeline is handled for you. You focus on your business — not the data.

You do, however, want to have confidence that your CDP vendor has the capabilities to manage your data at scale with the speed you require. There is so much heavy lifting involved in data management — and you need a system that abstracts all that complexity for you and just gets it done.

We assume that you prefer to spend most of your time analyzing data for insights and acting upon the results, not preparing the data before you even load it. How you first collect this information — or in CDP terms, how you *ingest* data — and how that data flows between applications and databases makes an enormous difference on how complete and up to date that information will be.

Understanding the simplified data pipeline and a short list of data terms will help you when you're considering a CDP. Now we're going to get a bit technical, but it's important so bear with us. We start with system integration and how data is collected and updated. After it's collected, the data needs to be unified into a single profile. Finally, workflow orchestration directs the flow of data (see Figure 2-2). We define each segment of the data pipeline in the following sections.

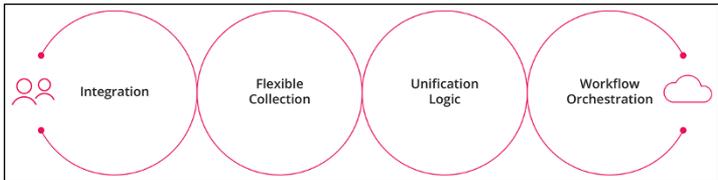


FIGURE 2-2: The data pipeline.

Integration

The integration segment of the data pipeline consists of the following two components:

- » **Integration library:** In the simplest form, any time you want data going from one place to another, you're talking about integration. Out-of-box integration libraries for the most common data sources, business intelligence tools, and

marketing tools speed your deployment and remove much of the heavy lifting from IT.

- » **Custom integration:** At any large company, there will always be an application that requires custom integration. Your customer loyalty application serves as a perfect example. No vendor will have out-of-box integration for every application. Yet you don't want a huge IT project. An enterprise CDP vendor provides professional services for custom integration to applications that are not ubiquitous but are part of your legacy.

Flexible collection

The following terms will help you understand the flexible collection segment of the data pipeline:

- » **Flexible schema ingestion:** Getting data in and out of a system can prove to be a lot of work if much of the data preparation has to happen manually or outside of the CDP. Schema-less ingestion collects raw, event-level data without predefined tables and conforms to changes made at the data source. Essentially, this gives you access to data that you didn't know existed. When the team managing your customer loyalty applications adds 50 fields of information, schema-less ingestion collected that data. Without schema-less ingestion, you would lose the information collected in the additional 50 fields. Or you would have to know of this change in advance and set up tables to collect each piece of data. This point cannot be underestimated and many times is a distinguishing feature that sets non-enterprise-grade CDPs apart from robust enterprise CDPs.
- » **Batch data processing:** Under the batch processing model, a set of data is collected over time and then fed into an analytics system in bulk. In other words, you collect a batch of information and then send it in for processing on a schedule without manual intervention. This is an automated way to process lots of data efficiently.
- » **Incremental loading:** As much as you want to avoid doing data preparation to ingest your data into the right schema, you also enjoy not having to dedupe your data daily. With incremental loading, you can simply do an initial historical

data dump, and then schedule all future transfers to load data based on your last update.

Take Salesforce as an example. With incremental loading, you don't have to bring in all the millions of contact records into your CDP daily. Instead, only ingest the last 100 records added to your CRM since your last upload.

- » **Streaming data processing:** Under the streaming model, data is fed into analytics tools piece by piece. The processing is usually done in real time. Data processed in a streaming model should be query-able within one to two minutes. An enterprise CDP must offer flexible data processing methods, including streaming, to allow for the process of personalized targeting to work effectively.

Unification logic

The unification logic capability differentiates a CDP from most data warehouse and data platform solutions. To create a single profile from what could be dozens of data sources, you need a robust unification logic. This capability matches identities across devices, such as mobile, computers, POS databases, connected cars, and appliances. Each data source may have a different identifier for the same customer.

Workflow orchestration

You can think of your data pipeline workflow orchestration in the following terms:

- » **Workflow for data pipeline:** Workflow automates the movement of data. It allows you to create, edit, and manage your data pipelines with a convenient graphical user interface (UI). Without a workflow tool, you would require a specialized IT person to manage the data pipeline.
- » **Workflow for profiles:** Workflow orchestration can also stitch together multiple identities and complex customer profiles. With the use of workflows and the unification logic, you can define your customer in unique ways.

» **Continuous data integration:** Workflow in conjunction with your integration methods enables the real-time movement of the data needed to create audiences, segment them, engage with them via campaigns, and close the loop on campaign results while you can still course-correct.

The enterprise CDP delivers a unified customer view to allow you to provide personalized experiences for your customers that will keep them loyal to and delighted with your brand.

IN THIS CHAPTER

- » Optimizing for deep insights through data analysis
- » Creating dynamic customer segments for personalized targeting
- » Engaging your customers for omnichannel marketing success
- » Understanding the need for execution systems for the nth mile

Chapter 3

Delivering a Personalized Experience

This chapter explains how you can put your data to work. You find out what's necessary to optimize data analysis activities and how to build dynamic customer segments to power your marketing campaigns. You also discover what it takes to effectively target your customers across all channels for personalized engagements that grow your business.

Optimizing for Data Analysis

With your customer data on a single, centralized platform, you're now ready for insights. You're ready to ask any question you want — no longer limited by scale, methodology, or data access obstacles.

An enterprise customer data platform (CDP) gives access to the right data, at the right time. Optimizing data for analysis requires availability of event-level data, data storage over time, and the ability for many teams to query that data simultaneously and without delay. We walk through how an enterprise CDP delivers each of these essential capabilities.

Deep insights with event-level data

With an enterprise CDP that uses a flexible ingestion methodology (see “Flexible collection” in Chapter 2), you get raw, event-level data. Event-level data is all about behavior. Event-level data provides an intricate view of the actions that your visitors and customers take as they browse, buy, or play a game. This rich information gives you the opportunity to detect patterns and understand behavior that may not have been considered without such deep visibility.

Event-level data can tell you what enticed a customer to buy when the customer walked into a retail store, if a promotion encouraged an additional purchase, or which features in a game influenced players to go to the next level. When you bring all this information together to form the story of the customer journey, you have a clear picture of what you need to do to improve the customer experience.

Event-level data has been around for a long time, but it requires a specialized architecture and expertise. The enterprise CDP delivers this capability so you can focus on analyzing the behavioral data for greater insights that can serve to build a competitive advantage.

Persistent view

All data should remain available indefinitely for analysis and for campaigns and not be purged. With all the discussion around real time, remember that history matters. Persistent data remains across time. You retrieve this data again and again. An enterprise CDP stores your data indefinitely.



REMEMBER

Your customer journey exists across time as should your data.

With persistent data you can identify patterns and predict trends. Persistent data can help with, for example, resolution across devices. You want to maintain a persistent view of all your customer data without limitation. You need the ability to ask a question tomorrow that you never knew you wanted to ask, and you need a complete data set to get that answer.

Data warehouses and data marts

When considering an enterprise CDP, you may wonder where a data warehouse comes in. In short, a CDP includes a *data*

warehouse dedicated to customer information. *Data marts* are mini data warehouses that are often focused on the needs of a specific department or team speeding the delivery of data queries. Data marts may be mini data warehouses, but they aren't necessarily small (see Figure 3-1). The entire enterprise CDP may include 25 million profiles, and a data mart within may include 10 million profiles.

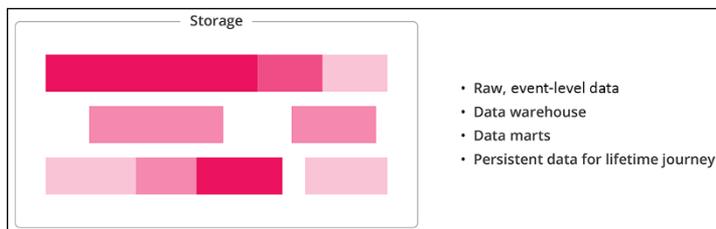


FIGURE 3-1: A data warehouse and data marts.

As an example, a team may be focused on users of a particular product. A data mart enables the team to access the up-to-date profiles of those customers using that particular product. Many data marts may exist. Customer profiles may be part of one or shared across many data marts. Data marts improve the query response time by allowing access to a *subset*, or a focused version of the data warehouse.

Querying the data store

Although an enterprise CDP offers some analysis capabilities, made available with a user-friendly interface, most marketing analysts and data scientists use tools of their preference for modeling data. An enterprise CDP easily provides query output to systems of your choice. This integration to business intelligence (BI) and analytics tools should be out of the box and require no custom coding or maintenance from your IT department.

For the actual queries, an enterprise CDP makes the data store available to analysts using the Structured Query Language (SQL). SQL is a natural language for analysts. It's simple and easy to use. Again, an enterprise CDP gives data access without specialized IT expertise.

SQL has been around for a long time and has continued to evolve and improve. It offers a powerful framework that speeds up the

query process. When you're asking complex questions from a data warehouse or data mart you may be dealing with millions of records with hundreds of lines of information per record. You can't take for granted scalability and performance. For more information on how the enterprise CDP delivers on performance and scale, see Chapter 5.

Segmenting Customers for Personalization

Dynamic profile segmentation allows you to better target and engage your customer. Dynamic profile segmentation lets you define (model) your customer in different ways with great intricacy and refinement. This allows you to target very specific types of customers for personalized messaging.

You may want to identify a customer segment to receive a specially selected ad or promotional offer, execute an email campaign, or have the customer contacted directly.

One of the most important capabilities of an enterprise CDP is a feature that enables you to build your own audiences, or customer segments, without the use of SQL queries or specialized expertise in development of database management. This user-friendly drag-and-drop segment builder gives marketers the power to personalize customer communications and conversations of any size and in any channel.

When the data model is defined, the enterprise CDP automatically generates the logic to unify customer data into your desired customer segments. These segments, when activated within your marketing programs, automate the process of creating Facebook audiences, MailChimp lists, and Marketo campaigns.

More refined segments deliver better outcomes. All CDPs provide templates for segmentation. With an enterprise CDP, you can define your customer in unique ways and customize segments that meet your business. In keeping with the self-service approach, customization should be available without the need for a lengthy IT project. These segments power your marketing efforts (see Figure 3-2). A one-size-fits-all approach will not drive competitive advantage.

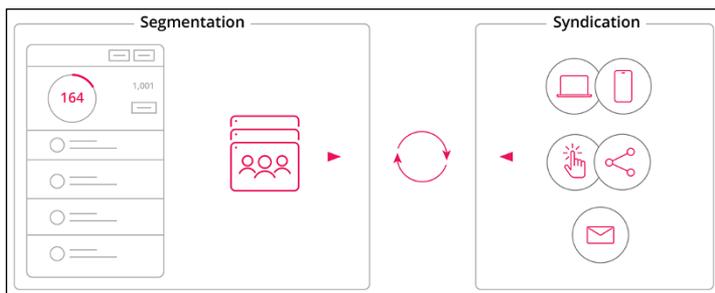


FIGURE 3-2: Segments power marketing campaigns.

Acting on Data-Driven Decisions for Omnichannel Success

Data and analysis produce value only when put into action in a timely fashion. For effective customer communication, you want to take action and deploy a targeted response based on customer interactions and behaviors. This enables each customer experience to be personalized on your website, in your marketing programs, on social campaigns, in advertising, at a retail store, and in your product.

When you've developed your customer segments, these segments will direct a course of action in your marketing tools. The communication between your segments and your tools is seamless to enable execution of personalized, omnichannel engagement. The customer profiles and segments remain within the enterprise CDP and are automatically updated. Robust workflow combined with dynamic segmentation lets you conduct marketing campaigns in real time.

Let's take a closer look at "real time." Not all campaigns need real-time execution. For example, a promotional email that offers the same discount to all customers doesn't require personalization. A promotional offer that is a result of an action taken by a customer needs real time. If a gaming customer already owns game A, you want to deliver a promotional offer for game B. Real-time personalization is the capability to send current, personalized communications to a customer based on the customer's real-time activity on the web.

When a customer, or even a first-time visitor, exhibits a behavior or fits attributes that match a particular segment, that personalized message needs to be offered within a relatively short period of time. Real-time segmentation operates against streaming data that moves through a workflow.

Executing on the nth Mile

Beyond dynamic segmentation and the ability to send segments with instructions to executional tools for campaigns, mobile messaging, advertising, and other content delivery, you still need execution systems for the nth mile. Advanced features available with an enterprise CDP include

- » **Predictive analytics:** Predictive analytics uses algorithms to suggest offers, messages, or marketing actions that are likely to convert based on campaign goal.
- » **Testing and self-optimization:** *A/B testing* (also known as *split testing* or *multivariate testing*) is an analysis in which randomized target customers receive variations of an item (for example, an application interface element or web page) to measure the effect on a desired outcome, such as conversions. *A/B tests* monitor and self-optimize the customer experience based on the winning campaign segment.
- » **Multi-touch attribution:** Multi-touch attribution is a method of scoring customer touchpoints that tells you the likelihood that any given touchpoint, in any channel, contributed to a sale. Multi-touch attribution models provide unique insight into the channels that are of highest value and those that justify the most marketing budget.
- » **Flexible multi-touch attribution models:** A flexible attribution model allows you to assign *x* percent of the credit to the first interaction and *y* percent to the last interaction, and distribute the rest of the credit among interactions in between. Assigned percentages are based on your own business logic. You can even integrate this data with Salesforce for end-to-end visibility into your lead funnel and customer journey (see Figure 3-3).

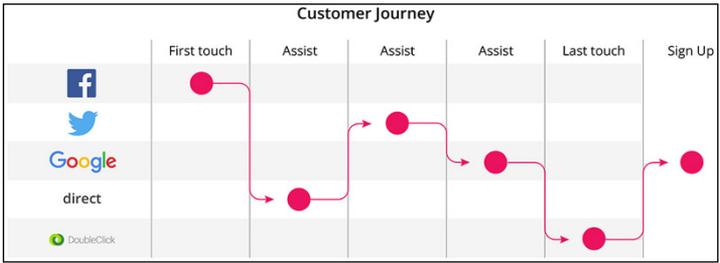


FIGURE 3-3: Flexible multi-touch attribution.

But what if you want a flexible attribution model, one that allows you to assign x percent of the credit to the first interaction and y percent to the last interaction, and distribute the rest of the credit among interactions in between, based on your own business logic?

Advanced capabilities and AI-powered insights create more efficiencies and enhanced outcomes.

IN THIS CHAPTER

- » Applying the latest artificial intelligence and machine learning to your marketing
- » Targeting your content
- » Using predictive analytics
- » Making the most of your sales leads

Chapter 4

Powering Your Marketing with Artificial Intelligence and Machine Learning

In this chapter, you discover how marketing powered by artificial intelligence (AI) and machine learning (ML) can elevate engagement along the customer journey and improve your campaign results. You get a better sense of the predictive use cases that can optimize your campaigns and the results you can expect, such as an improved lead scoring and decreased cost per acquisition. You see how these sophisticated capabilities can be made available to you without specialized ML expertise.

If you're ready to dive into a world where machines can learn and make decisions without explicit instructions from programmers, let's go!

Powering Your Marketing with Artificial Intelligence and Machine Learning

Analytics propelled by AI and ML have revolutionized marketing by infusing precision, speed, and personalization at each phase

of the customer journey. With AI and ML, marketers can better understand their customers, engage when and as their customers prefer, and measure their contributions to the organization. In today's competitive environment, AI and ML have become a necessity to optimize omnichannel marketing and maximize the *customer lifetime value* (CLTV), a measure of the amount of revenue or profit generated by a customer over the course of a relationship.

The concept of AI is about making machine behavior more like human intelligence. AI looks at patterns and pixels to determine what it's seeing. The intelligent agents within AI perceive their environment and take actions to reach specified goals.



REMEMBER

ML is often interchanged with AI. Although ML is a method of achieving AI, it's AI software that gives computers the capability to learn the behavior of a program based on exposure to new data.

An enterprise customer data platform (CDP) leverages AI and ML behind the scenes and makes this sophisticated technology available through user interfaces (UIs) that eliminate the need for specialized AI and ML expertise. Using AI and ML functionality, you can apply mathematical, algorithmic, and scientific methods to improve every aspect of attracting and serving customers.

Applying the latest AI and ML methodologies

Now that you can collect the behaviors, transactions, and attributes of all your customers and prospects, AI and ML are vital to making sense out of this massive amount of data. Putting this technology to work for you can bring marketing effectiveness to the forefront and build competitive advantage.



REMEMBER

Your focus as a marketer is on some aspect of improving the CLTV, as it should be. You don't need to understand how AI and ML actually work. Remember that an enterprise CDP empowers you with this sophisticated technology. What's important is how you leverage that technology in your day-to-day activities.

AI and ML offer solutions for diverse problems and seemingly endless possibilities of applicable use cases. An enterprise CDP will provide a selection of templates for the most common use cases. In addition, an enterprise CDP vendor will provide professional

services for your customizations. You shouldn't require specialized ML expertise.

Here are a couple of use cases that commonly leverage AI and ML:

- » Profile-based content generation and delivery
- » Anonymous visitor identification

Identifying anonymous visitors

In the online world where cookies and tags track visitors, stitching together different visits by the anonymous visitor can prove challenging. If our customer, Laura, deletes her cookie history every other week, she can show up as a different person every other week. AI technology can be used to create custom profile matching and identifications specific to your business. Now all of Laura's visits and her activity for each visit become part of one profile.

Improving profile-based recommendations

Whether you want to offer a customer the right piece of content that she'll find interesting or recommend a product that she'll be likely to buy, ML can predict the more likely outcome.

Earlier, we mention how customers want you to understand what they want and when they want it. The data exists within your enterprise CDP. ML helps you engage effectively based on that data.

For a better understanding of how ML can be used, let's start with the most common use case for e-commerce, and one that that we can all relate to: shopping!

This example (see Figure 4-1) demonstrates how you can recommend products based on previous purchases and/or customer ratings. When Jack rates his purchase of coffee beans very high, offering products related to that purchase may result in upsell. Additionally, ML can consider a broad set of information related to Jack's profile. Eventually, by using a technique called *collaborative-based filtering*, Jack can be offered products based on what similar customers have purchased in the past.

History		
User	Item	Rating
Tom	Laptop	3 ★★☆☆☆
Jack	Coffee beans	5 ★★★★★
Mike	Watch	1 ★☆☆☆☆
...

Recommendations	
User	Top-3 recommended items
Tom	Headphone, USB charger, 4K monitor
Jack	Mug, Coffee machine, Chocolate
Mike	Ring, T-shirt, Bag
...	...

FIGURE 4-1: Product recommendations.

Other examples of AI and ML scenarios include measuring and visualizing campaign effectiveness, sales forecasting and churn prediction, ad and promotional targeting, customer segmentation, anomaly detection, and price optimization.

Delivering Targeted Content

Content marketers are very familiar with content planning based on information they *assume* will be in greater demand. AI can assist in creating relevant content, designed for targeted customers and in real time.

The capability of AI to recognize content at its early inception of trending, especially content that is meaningful to a certain demographic, can prove powerful. AI algorithms can identify emerging conversations on social media platforms such as Facebook, Twitter, and Instagram. AI can also sort through published content to recognize irrelevant information such as discredited sources. With this information, you can focus on delivering content that your target audiences will find most engaging.

When the content has been created, predictive intelligence can match that content with the right customers. With ML for predictive outcomes and advanced analysis, you discover information and direct targeted responses that would otherwise be impossible.

Optimizing Campaigns with Predictive Analytics

Predictive analytics uses techniques like data mining and statistical modeling to make predictions about unknown future events. Predictive models are used to qualify leads, optimize pricing, and measure the contributions of marketing at each stage of the customer journey:

- » Predictive engagement scoring and metrics give you next-level customer understanding.
- » Classified content determines customer intent to influence your content strategy.
- » Look-alike audience modeling finds current, best customers from other data sources.

In the next example, predictive analytics improves the click-through rate (CTR) and decreases the cost per acquisition (CPA) of advertising. An enterprise CDP collects all the data about previous visits and click-through behavior (see Figure 4-2). Using the history of the profiles, ML builds the model that will direct activity to offer personalized ads that will be most likely to maximize the CTR (see Figure 4-3).

Recommendations					
	Clicked	# Visits	...	Ad category	Browser
log#1	Yes	23	...	Tech	Firefox
log#2	No		...	Sales	Chrome
...
log #N	Yes	35	...	Science	Safari

FIGURE 4-2: Ad click-through rate history.



FIGURE 4-3: Ad click-through rate prediction.

Scoring and Prioritizing Sales Leads

Sales leads present one of the most critical milestones in the business-to-business (B2B) customer journey and a key measurement of marketing success. The faster you identify and respond to a qualified lead, the better. You want to know not only which lead is considered hot, but why the lead was determined to be hot.

Data from Salesforce or other CRMs is unified with other information about your contacts (see Figure 4-4). The combined data enhances predictive power. ML makes predictions based on behavior and determines which contacts are hot leads. Hot leads are identified in Salesforce, and the reasoning is made available to the account executives.



FIGURE 4-4: Lead scoring and prioritization.

When lead scoring accuracy improves, sales increase. ML also traces the leads back to initial marketing campaigns and sales strategies.

The addition of these use cases and many more can dramatically improve your ability to deliver targeted personalization in your marketing programs. You do, however, need a platform to handle the scale and security you require.

- » Managing massive amounts of data
- » Working with personally identifiable information
- » Complying with the laws of the European Union

Chapter 5

Trusting in a Secure, Powerful Platform

In this chapter, we cover a topic that keeps most executives and IT managers up at night: security. The massive amounts of customer data that will be available to you gives you incredible power. And you need to fully grasp and appreciate the capabilities of the enterprise customer data platform (CDP) to offer the performance, flexibility, scalability, and security that an enterprise — and your customer — demand.

In this chapter, we also fill you in on your requirements around the General Data Protection Regulation (GDPR), a legal framework for the collection and processing of personal information of individuals residing in the European Union (EU).

An enterprise CDP harnesses your data so that you can focus on how best to engage your customers and create the optimal customer experience for competitive advantage. You don't really need to know all the technology behind how an enterprise CDP works. You do, however, need to perform due diligence so that you can trust that the core platform of the CDP handles the scalability, flexibility, and security that you require. Your success and time to value hinges on the power and performance of the core data foundation of the enterprise CDP. And your customers expect that you'll handle their data with the utmost privacy and respect.

Executing at Scale

Think for a moment about the enormity of the data you're trying to harness. This is probably, after all, one of the reasons you're considering an enterprise CDP in the first place. You don't have to get into the tens of petabytes of data or the millions of events. Consider the number of customers you have and hope to have, the number of data sources you're bringing together, and the data intensity of your business. A gaming company, for example, generally wants to capture more data types, such as data about how its games are played.



WARNING

An enterprise CDP that lacks the capability to manage huge amounts of data will slow your business to a crawl and not allow for the growth you expect.



REMEMBER

Never underestimate the scale of your data needs in the near future or the ways you may want to hyper-personalize your customer interactions. Your data needs will only continue to grow, and you need to future-proof your business by understanding your customers and their needs better than your competition.

Handling Your Unique Business Requirements

An enterprise CDP offers flexibility to conform and adjust to your business. Let's face it: There's tremendous complexity involved when you do business at scale. An enterprise CDP enables you to conduct your business in unique ways, grow with your success, and adapt with change. An enterprise CDP provides flexibility in many ways:

- » **Flexible data collection:** Not all CDPs collect data in the same way. An enterprise CDP collects data using flexible data collection, such as schema-less ingestion (see Chapter 2). This gives you more data and the opportunity for deeper analysis.
- » **Continuous data integration:** Data flows freely in an enterprise CDP. Depending on the particular use case, you

need support for real-time data streaming and batch processing. Updates of data profiles and segments run seamlessly.

This flexibility of data collection also provides ease of integration with out-of-the-box connectors, known as *application programming interfaces* (APIs). An API is a set of subroutine libraries, protocols, and tools used to develop software. It allows different software to automatically share information with each other. In the case of an enterprise CDP, you want APIs for customer relationship management (CRM) software, financial software, historical data warehouses, marketing automation tools, business intelligence tools, and more.

- » **Beyond templates:** Templates for audience segmentation or predictive analysis work well for smaller organizations. At the enterprise level, however, customization allows you to execute on advanced and complex scenarios that build competitive advantage.



TIP

Consider how you define a customer. A gaming company that caters to teens may choose to define its customer as a family. A consumer packaged goods company not only wants to understand its retail and professional organizations that sell its products, but know the individual consumers as well.

- » **Separation of storage and compute:** The separation of storage and compute speaks to scale as well as flexibility. By decoupling these components, you get the flexibility to easily adjust storage capacity and active queries based on need. Without the ability to scale up or scale down as you need, some queries or data pipeline processes bog down the performance of the CDP. Someone in your organization will be delayed in acting when and as needed because the data is not flowing freely.

Understanding the Power and Risk of Personally Identifiable Information

When an enterprise CDP unifies your data, a unique profile of personally identifiable information will be created. *Personally identifiable information* (PII) is any data that could possibly identify a

specific individual. Any information that can be used to distinguish one person from another and can be used to remove anonymity can be considered PII. PII can be sensitive or nonsensitive:

- » **Sensitive PII:** Information that, when disclosed, can result in great harm to an individual whose privacy has been violated. Sensitive PII should always be encrypted in transit and when data is *at rest* (stored in a database or other file storage). Sensitive PII can include biometric information, medical information, personal financial information, and unique identifiers such as Social Security numbers and passport information.
- » **Nonsensitive PII:** Information that can be transmitted in an unencrypted form without resulting in harm to the individual. Nonsensitive information can be easily gathered from public records, phone books, corporate directories, and websites.

Up to now, it was always assumed that consumers were willing to trade privacy for convenience, but we're entering a new era of data privacy with recent high-profile data breaches. As consumers demand more control and access over their personal data, and as regulations become more prevalent, data management practices are under a new level of scrutiny. Therefore, it's incumbent upon your organization to protect your customer data and to consider this your utmost priority. An enterprise CDP that collects and unifies customer identity across multiple data sources requires strong user privacy and security capabilities, and we suggest that as you evaluate your options you spend considerable amount of time on this topic.



REMEMBER

Protecting PII involves a combination of encryption, threat protection, data-loss prevention, and policy compliance. An enterprise CDP must provide a level of security to comply with the tightest security protocols and compliance mandates of your company.

Your IT security team will verify that your enterprise CDP meets requirements. Your security team prefers that an enterprise CDP complete a third-party audit to verify that best practices are in place. Here are some of the security capabilities that an enterprise CDP delivers:

- » Encrypted data at rest and in transit
- » Security credentials and governance practices to meet enterprise compliance
- » A secure authentication method, preferably OAuth, to protect that data from outside attacks
- » Role-based access control
- » Industry-specific regulations such as the Health Insurance Portability and Accountability Act (HIPAA) for the protection of a patient's health information

Understanding How the GDPR Impacts Your Organization

The GDPR imposes strict privacy restrictions governing the collection and use of personal data of EU citizens. But it doesn't apply just to companies *based* in the EU. Compliance is required for any company that has data on any EU citizen. Chances are, your company falls in this bucket.



REMEMBER

The implications for marketers are far reaching. For instance, a U.S. company that uses cookies when an EU citizen visits its website is affected by the GDPR if that visitor data is collected in web form fills. Any sales, marketing, or advertising that involves personal EU citizen data falls under the GDPR umbrella.

Let's say an EU citizen gets her conference badge scanned at a trade show exhibit booth in Tokyo, and the lead data is then uploaded into a CRM in Denver. That counts. It won't matter where the data was collected or uploaded or where a marketing campaign is launched; as long as it's data that represents an EU citizen, you're subject to the GDPR, no matter where the data is stored.

Unfortunately, there's no simple plug-and-play solution. Full compliance with the GDPR is a multifaceted effort that requires data assessments, new processes, and more stringent controls on how you collect, use, and share data involving EU citizens. You can find more detailed information and the latest updates on the official GDPR website at www.eugdpr.org.

Increasing government regulations and customer demands make trusting in a secure and powerful platform an essential part of your customer-engagement success. The penalties for data security incidents are severe — from the monetary penalties to a loss of brand loyalty and customer trust. And in the end, these new regulations are an important step in the right direction to manage consumers' rights to their privacy in this new era of big data.

IN THIS CHAPTER

- » Using one-to-one marketing to retain customers
- » Increasing click-through rates
- » Building an e-commerce experience

Chapter 6

Proving Value: Case Studies

This chapter offers you real-world examples of companies that have successfully leveraged an enterprise customer data platform (CDP) to deliver a personalized experience and gain a competitive advantage. We take you on a tour of companies across industries: e-commerce, retail, and automotive.

Shiseido: Finding Beauty in One-to-One Marketing

Shiseido, the fifth largest maker of cosmetics in the world, uses an enterprise CDP to power “moment-driven” smart messaging.

In the past, Shiseido collected customer data from its personal health site, Watashi. But with siloed data from different touch-points, marketing lacked the 360-degree view of the customer required to deliver the right message at the right time. Treasure Data’s enterprise CDP united Shiseido’s data and enriched it with demographic and historical, online data collected over years of customer interactions. This wealth of customer information and insight had never been connected and utilized to drive deeper engagement.

This enabled Shiseido to

- » Gain insight into customers' moment-by-moment emotional context
- » Apply fine customer segmentation for advanced look-alike marketing and dynamic websites
- » Enrich CRM data with digital insights for online promotion
- » Create meaningful product offers derived from insights and not assumptions

As the team began to deploy the enterprise CDP, they realized another benefit: a minimal need for engineering time and complete ownership of the entire data platform by the marketing team. By creating a one-to-one marketing program fueled by customer data, Shiseido is able to delight its customers and retain their loyalty.

Subaru: Driving a 350 Percent Increase in Ad Click-Through Rates

Subaru, one of the world's most recognized auto brands, has built a high-performance enterprise CDP to turn tire-kicking customers into buyers. Dealerships use the platform as a smart messaging tool, achieving healthy conversion rates by targeting audience segments that are most likely to buy. The automaker can also segment likely buyers in the earlier stages of shopping from those who have done their research and are on the verge of purchasing.

With its enterprise CDP, Subaru was able to

- » Achieve a 350 percent boost in new ad campaign performance by feeding targeted content to segmented customers
- » Optimize ads based on better understanding of customer demographic and behavior data
- » Increase dealership sales using online data for offline lead scoring

The enterprise CDP pulled disparate data from Subaru's multiple systems to improve these performance rates. It also enabled better collaboration and communication between marketing and sales teams. Finally, it improved the sales staff's ability to connect with in-store prospects on a deeper level.

Wish: Using Real-Time Data to Build an E-Commerce Experience

Wish, the “Shopping Mall in Your Pocket,” has built the second most popular iOS app in the world in part by leveraging an enterprise CDP. Wish started as a data science experiment at Context-Logic and grew into a full web and mobile e-commerce platform with more than 15 million daily active users (DAUs) within 18 months.

Analytics showed that Wish customers craved a more personal experience, but the company needed to craft this experience at scale. The enterprise CDP helped Wish to

- » Build a personalized shopping recommendation engine
- » Unify customer data collected from multiple sources (website, Facebook, and mobile app)
- » Constantly improve the customer experience through A/B testing

The results are amazing! Just think of this statistic: Nine out of ten purchases on the Wish app do not involve a search. That means that the app, and the underlying technology of the enterprise CDP, are doing the heavy lifting of product recommendations in real time, predicting customer needs and delivering the right experience.

- » Selecting a platform that is scalable, flexible, and secure
- » Getting started with a proof of concept

Chapter 7

Getting Started with an Enterprise Customer Data Platform

If you've read this book from the beginning, you know the fundamentals of an enterprise customer data platform (CDP) and its potential value. This chapter gives you key insights on how to select the enterprise CDP that's best for you. You get a jump start on how to select a use case for a proof of concept (PoC).

Selecting Vendors for Further Vetting

Ultimately your selection will be based on how well the CDP executes on your top use cases. Yet, jumping into the details of your use cases with numerous vendors takes far too much time.

Throughout this book, we use the term *enterprise* quite a bit. This is because we believe that it's imperative that you start your assessment journey by looking at the needs of your organization. Are you part of a large enterprise with complex data needs, several organizational units, and functional teams spread across

geographies and locations? If so, you should only consider a CDP that is built for scale and complexity.

Nonetheless, vendor selection for a CDP is a phased approach and will take time to vet your individual requirement. A few key questions will quickly identify the CDP solutions that most closely match your key requirements and warrant a deeper dive:

» **Can the CDP perform at the scale you require?** Think for a moment about the enormity of the data you're trying to harness. This is probably, after all, one of the reasons you're looking for an *enterprise* CDP in the first place. You don't have to get into the tens of petabytes of data or the millions of events. Consider the number of customers you have and hope to have, the number of data sources you're bringing together, and the data intensity of your business. A gaming company, for example, may want to capture more types of data than buying behavior due to device sensors' vast data collection while games are played. A CDP vendor that lacks the capability to manage huge amounts of data in various formats will slow your business to a crawl and not allow for the growth you expect to handle. If you want to personally engage your customers in real time, the scalability of the CDP is an easy way to rule a vendor in or out.

Never underestimate the scale of your data needs in the near future or the ways you may hyper-personalize your customer interactions. You may not know exactly what you'll do or how you'll do it, but with a CDP that is built for scale and allows for any manipulation of the data inside, you'll be ready. And remember especially when considering data at scale, a focus on your customer's privacy concerns must remain front and center to your approach.

» **Can the CDP easily unite data from *all* your data sources?** Some CDP systems work better with online or mobile data only. Others come from the digital ad world and focus on cookies. Integrating with your custom loyalty application or uniting offline data such as from a physical store requires different expertise. Just think of the explosion of data coming from sensors in connected devices — this will play an increasingly important part in how you understand your customer.



TIP



TIP

An enterprise CDP vendor should be able to bring *all* your data sources together, regardless of data type, without the need for a lengthy IT project, a lengthy or ongoing professional services engagement, or your having to set up systems and databases to store data and maintain integrations across hundreds of inputs and outputs. This will shorten the list of CDP vendors significantly right off the bat. *Do not underestimate this critical point.*

» **Can the CDP adapt to your business with the capability to customize features such as segmentation?** A small or midsize company may be able to get away with standard templates. But for an enterprise or a company doing business at scale, the complexity of serving your customer requires a platform that can grow and adapt to your current and future needs. Because customer segmentation drives personalized engagement across all your marketing campaigns, customizable and adaptable segmentation offers tremendous value that it should be considered a must-have requirement.

» **Does the CDP leverage artificial intelligence (AI) and machine learning (ML)?** The capability to leverage AI and ML for predictive analysis and complex workflows also surfaces a vendor's capability to meet your business needs.



TIP

Check not only if the CDP offers AI and ML, but also if ML expertise can be available to you with a friendly user interface (UI) that eliminates the need for specialized ML engineers or data scientists. If you want to use a CDP as an asset to drive competitive advantage and future growth, add this capability as a selection criterion and dig deep into specific capabilities.

When you've created a short list of vendors, you can investigate capabilities with more detailed criteria, specific to your use case.

Starting with a Proof of Concept

Having an enterprise-wide CDP does not mean that you have to boil the ocean by doing everything at once. To get off the ground, start with a focused PoC to identify low-hanging fruit — something likely to yield high value quickly.

To demonstrate value, a PoC should unite a minimum of two data sources such as website interactions and in-store point of sale (PoS) transactions. This will help jump-start the data-driven, cross-business collaboration required to deliver a holistic customer experience.

Also, consider a PoC project that extends across at least two business units, such as the web team and the in-store PoS group.

Good, quick PoC projects — virtually limitless in variation — tend to focus on one key performance indicator (KPI). Here are some examples:

- » Increase revenues by identifying top customers and improving engagement.
- » Improve upselling with a better recommendation engine.
- » Drive online traffic through more targeted social media.
- » Boost customer retention with a new loyalty app.
- » Enhance engagement by improving product features.

Whatever PoC you choose to pursue, don't underestimate its importance as a showcase. Your PoC will show what's possible with a robust enterprise CDP. It will show to people throughout your business the power of a consolidated view of the customer and the possibilities for deeper engagement and customer life-time value. This, ideally, will generate more than buy-in; it will generate genuine enthusiasm and alignment to critical business priorities.

Now that you understand why you need an enterprise CDP and what capabilities are needed to deliver results, you're ready to investigate vendor options. To get started, take a look at Treasure Data's enterprise CDP at www.treasuredata.com.

Chapter 8

Ten Questions about an Enterprise CDP

Whether you've read the entire book or you're just opening to this chapter, here you'll find answers to ten important questions to ask about enterprise customer data platforms (CDPs):

- » **Does an enterprise CDP track both anonymous visitors and known customers across devices?** An enterprise CDP is designed to help you learn from your customer behaviors — from anonymous to known to loyal. Make sure any enterprise CDP you're considering has web and mobile software development kits (SDKs) to collect event data and support tracking that's identity based (email, usernames) and cookie based.
- » **Does an enterprise CDP offer flexible and ideally unlimited data retention?** All data should remain available to your campaigns indefinitely and not be purged. Many marketing technology vendors purge data after 90 days. You want the capability to query your data for insights without limitations of scale or data history.

- » **Does an enterprise CDP integrate with all data sources you need to bring together?** Your enterprise CDP must integrate with all your data sources, including point of sale (PoS), Internet of Things (IoT), web, and mobile, including offline, batch, and streaming. This allows marketers to know every customer interaction to build the most complete profile of the customer.
- » **Does an enterprise CDP offer access to all raw data for all data types without requiring external data warehouses?** Average and aggregate stats only tell you 10 percent of the story. To uncover key moments in your customer journeys, you need access to raw, unfiltered data. Enterprise CDPs must support raw data access. This may seem technical, but it's important that you use schema-less ingestion to aggregate raw data from different sources with ease. This gives you access to data that you didn't know existed, even as it evolves over time.
- » **Does an enterprise CDP provide the capability to orchestrate omnichannel campaigns with personalized engagement in real time?** To reach customers or prospects in a timely manner, you want to take action immediately and deploy a targeted response based on customer interactions. This enables each customer experience to be personalized on your website, in your marketing programs, on social campaigns, and in advertising. Modern marketers orchestrate marketing programs cross-device and cross-channel. Make sure your enterprise CDP has the foundation to support increasingly complex customer journeys.
- » **Does an enterprise CDP offer a flexible way to develop customer segments?** With dynamic profile segmentation, you can better know and target your customer. Dynamic profile segmentation lets you define (model) your customer in different ways with great intricacy and refinement. This allows marketers to target very specific types of customers for personalized messaging.
- » **How much assistance does an enterprise CDP require from IT?** Because of the enterprise complexity, you want to work with IT, but you want to avoid the need for a large IT project. Prebuilt integrations are important to start. An enterprise CDP vendor will have professional services to

handle needed customizations and avoid a lengthy IT project. Marketing analytics and operations teams should be able to be self-sufficient from that point forward.

»» **Can an enterprise CDP process all data types and formats that you want to unify? Can it process the most complex analysis and segments you need in your project?**

Customer data can be messy. Understanding customer journeys requires advanced techniques. Make sure your CDP is flexible with the capability to easily customize your data sources and customer segmentation. Don't rely on rigid templates — your business is unique.

»» **Does an enterprise CDP have artificial intelligence (AI) and machine learning (ML) engines?** When you have a consistent view of each customer, it's time to apply AI and ML for predictive outcomes and advanced analysis. AI and ML allow you to discover information and to direct targeted responses that would otherwise be impossible.

»» **What type of security should an enterprise CDP have?** Your customers trust you with their data, and that means security needs to be a top priority when choosing an enterprise CDP. An enterprise CDP must have security credentials and governance practices to meet enterprise compliance and protect the confidentiality, integrity, and availability of customer information. In addition, data should always be encrypted at rest and in transit. CDP service providers should all be ISO 27001 certified and should demonstrate that they meet the Trust Services Criteria via a SOC 2 Type 2 report. Adherence to industry best practices around security and privacy should be audited by an independent third party.

Notes

Notes

**PERSONALIZE THE EXPERIENCE
ACROSS EVERY CHANNEL.
FINALLY.**

Deliver personalization at scale with
an enterprise **Customer Data Platform**

arm
TREASURE DATA

<https://www.treasuredata.com>

Put the customer at the center of everything you do

Digital disrupters are taking over industries and eliminating long-standing market leaders by offering their customers a hyper-personalized experience, giving them what they want before they know they want it! An enterprise customer data platform gives you the tools you need in order to know your customer so well that you can deliver the personalized experience they demand.

Inside...

- Learn why an enterprise customer data platform does what other marketing tools can't
- Protect personally identifiable information
- Differentiate data through personalization at scale
- Create smart content with artificial intelligence and machine learning
- Maintain fierce customer loyalty

arm
TREASURE DATA

Arm Treasure Data enterprise Customer Data Platform (CDP) unifies data from multiple sources - online, offline, and IoT device generated data - and empowers enterprises to disrupt markets with superior customer experiences. Our clients are creating transformational customer relationships by connecting the data dots with CDP, achieving more profitable business results.

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