Using Customer Data Management Technologies for Better Customer Experiences

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CX stakeholders know customer data is vital to deliver meaningful customer experiences, but are unsure which customer data management technologies to use. Data and analytics leaders must help stakeholders clarify desired business outcomes, optimal use cases and relevant technology investments.

Analysis

Optimizing the customer experience (CX) is a strategic effort for most organizations, especially in light of digital business transformation. Achieving a 360-degree view of the customer is a common objective of organizations to create the customer data foundation for CX. However, the 2020 Gartner Marketing Data and Analytics Survey found that — at least for marketers — only 49% of organizations say that achieving a 360-degree view of the customer is worth the effort. In addition, the 2021 Gartner Digital Commerce State of the Union Survey reports that the number of organizations accomplishing it across all channels has increased by 2% since 2019 (see Figure 1).

Key Findings:

- Organizations often pursue a 360-degree customer view that can set unrealistic expectations, especially for collecting, normalizing and maintaining, contingent on the scope of customer data being collected.

- The bewildering array of tools and technologies for collecting, managing and analyzing customer data often have overlapping capabilities, which adds to the confusion. Customer data platforms (CDPs), personalization engines and multichannel marketing hubs present alluring alternatives to enterprise data management technologies for sales, commerce and customer service leaders seeking to unify customer data.
Data and analytics leaders are uniquely positioned to enable their organization to leverage technology for a unified view of the customer by shaping an overarching data strategy and deriving a detailed investment roadmap.

Figure 1. Organizations Accomplishing a 360-Degree View of Customers Across All Channels Slowly Increasing

This research collection addresses two of the most common questions Gartner clients raise:

- How do we optimize the collection of relevant customer data — most commonly called a 360-degree view — of our customers?
Research Highlights

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How Do We Optimize the Collection of Relevant Customer Data?

A 360-degree view is the output of a consolidated, integrated, set of data relevant to a company's relationship with its customers or prospects. That dataset may need to include relevant information about customers’ profiles, transactions, preferences and relationships with other suppliers. Companies typically seek to build such a view to more effectively or efficiently improve the CX, retention, share of wallet or sales.

Most companies strive to achieve a complete 360-degree view of their customers, often starting with a channel such as digital commerce or specific discipline such as marketing or service. Difficulty comes in accomplishing this view across the entire organization to include all possible relevant data and utilizing it across all possible channels.

Efforts can be potentially counterproductive if the organization focuses so much on obtaining “all the data” about its customers that it loses sight of the purpose. There can be diminishing returns on extensive data collection. For example, Clorox found that, as it prioritized the data it used for personalization in its marketing endeavors (and limited the number of sources used), it saw higher returns on its personalization efforts (see Data Dimension Prioritization Process in Marketing [Clorox]).

Data and analytics leaders should work with CX stakeholders to focus on obtaining a relevant set of data or a subset of a 360-degree view that is directly related to personalizing customers’ experiences or making a decision.

Data management is also a challenge in obtaining a 360-degree view due to the variation of requirements stemming from the different business units. Data and analytics leaders are likely to need different data scopes, governance rules and quality standards to create use-case-driven, dynamically managed customer identities and profiles.
Related Research

**Maverick*Research: Pursuing a 360-Degree View of the Customer Will Destroy Your Business**

Pursuing a 360-degree view of the customer doesn't adhere to data privacy regulations, relies on soon-to-be obsolete data collection methods and obliterates customer trust. Instead, CMOs should prioritize data collection to focus on delivering value to customers.

**Marketing Analytics Teams Face Hurdles in Customer Data Management**

Gartner’s 2020 Marketing Data and Analytics Survey reveals insights on how CMOs are utilizing marketing data and analytics to make decisions, what data management challenges they face and how individual use cases can be the necessary guide to identifying solutions, including customer data platforms.

**Survey Analysis: 9 Key Trends in Digital Commerce Adoption**

Digital commerce continues to grow as a crucial element of modern business. This survey looks at the changing trends in commerce over 2019, right up to the start of the COVID-19 global pandemic.

**Survey Analysis: Boost Sales and Increase Customer Value Using Privacy and Personalization**

Greater spending in personalization in digital commerce, coupled with relevant and transparent privacy notices, can increase customer value and increase sales.

**Quick Answer: How Can I Use Personalization Most Effectively in Digital Commerce?**

Application leaders responsible for digital commerce can greatly improve the organization's commerce results by personalizing customers' digital experiences.

**Integrated Customer View Through Data To Drive Decisioning (Frost Bank)**

To drive business decisions effectively, Frost Bank consolidates customer information for improved quality of data and customer service (case study).
What Are the Data Management Technologies for Customer Data?

A focus on business outcomes enables data and analytics leaders to specify the relevant data management requirements, inventory the available capabilities and recommend the corresponding technology investments for customer data. Without such an approach, adopting multiple solutions with overlapping capabilities introduces business risks, such as:

- Redundant investments
- Disjointed customer interactions across channels
- Erosion of the CX

Technology investments fall into three broad categories:

- Enterprise capabilities
- Customer-specific data management capabilities
- Customer experience frameworks and design patterns

Enterprise Capabilities Vital to Customer Data

Maximizing the impact of customer data requires enterprise data management capabilities that go far beyond the typical customer data application. To realize these capabilities, data and analytics leaders must initiate a strong, collaborative working relationship with marketing and CX stakeholders.

Enterprisewide capabilities that are vital to customer data include those that enable:

- **Data Capture** — The ability to aggregate and store customer data to ensure its maintainability, performance, availability and efficacy.
- **Data Quality** — The ability to make data fit for your business use cases by performing tasks such as processing, transforming, cleansing and deduplicating data.
- **Data Integration** — The ability to ingest, transfer and load data to and from various sources.
- **Data Governance** — The ability to apply data governance policies and procedures with an adaptive framework that can respond to new digital business needs.
Additional technologies and practices include metadata management, data engineering and DataOps (see

The State of Metadata Management: Data Management Solutions Must Become Augmented Metadata Platforms, How to Build a Data Engineering Practice That Delivers Great Consumer Experiences and 3 Ways to Deliver Customer Value Faster Using DataOps).

Figure 2 shows the relevant enterprise data management technologies and their support for these essential tasks. For definitions of the technologies, see Note 1.

**Figure 2. Must-Have Enterprise Capabilities to Optimize Customer Data**

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**Must-Have Enterprise Capabilities to Optimize Customer Data**

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<thead>
<tr>
<th>Technology</th>
<th>Data Capture</th>
<th>Data Quality</th>
<th>Data Integration</th>
<th>Data Stewardship</th>
<th>Profile Unification</th>
<th>Segmentation</th>
<th>Activation</th>
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Source: Gartner

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All these tasks require technology decisions that should align to data, analytics and application integration strategies, but enterprise capabilities may overlap with existing enterprise systems, such as master data management (MDM) solutions or analytics hubs. Data and analytics leaders must acknowledge these overlaps in a customer data architecture. Some use cases or stakeholders may require parallel (or entirely separate) data pipelines that may justify separate technology, meaning a certain degree of overlap. An example is a data warehouse used to store persistent enterprise customer data assets such as point-of-sale data, but where some of that customer data is also stored in an MDM hub.

Related Research

How to Support an Enterprisewide Customer Data Strategy

Modern customer data governance strategies are increasing the burden on application technical professionals responsible for enterprise applications, who must shift away from functionally siloed thinking. Use these steps to build up your enterprisewide customer data management capabilities.

Benefit From AI and Logical Data Warehouse Synergy

Data and analytics leaders must ensure that their data science and data warehousing teams work together. These two disciplines are notably different, but there is some overlap and they are highly complementary when used together. The AI and logical data warehouse (LDW) systems must be designed to work together.

Choose Between Customer Data Platforms and MDM Solutions for 360-Degree Customer Insights

Customer data platforms and master data management solutions both enable 360-degree customer insights, but are optimized for different uses. Data and analytics leaders must evaluate the expected use cases and desired business outcomes of both.

Data Fabrics Add Augmented Intelligence to Modernize Your Data Integration

Data and analytics leaders must upgrade to a data fabric design that enables dynamic and augmented data integration in support of their data management strategy.

Take Advantage of Customer-Specific Data Management Processes
Marketing, commerce, sales and service stakeholders are aggressively deploying a range of technologies to address customer-specific data management processes. Data and analytics leaders must understand these processes, align customer data management demands with their organization's data management infrastructure, harmonize enterprisewide scope with the self-service needs of business users and rationalize overlapping capabilities.

Among the key data tasks are:

- **Profile unification** — The ability to consolidate profiles at the person level and to connect attributes to identities. This must include linking multiple devices to a single individual, once that person has been identified, and deduplicating customer records. Some organizations also require third-party data matching or aggregating customers into a household or account as part of this process, or have different aggregation rules depending on context (e.g., marketing, operations and customer service).

- **Segmentation** — The ability to group individuals into segments for the purposes of multichannel targeting is often performed by marketing systems but may also be performed by other users and teams for customer engagement or measurement purposes. Rule-based segment creation is the most basic capability, with advanced segmentation features including automated segment discovery, predictive analytics and propensity models, dynamic segmentation, and the ability to import and deploy custom models.

- **Activation** — The ability to send segments, with instructions for activating them, to executional tools for email campaigns, mobile messaging, personalized content, product recommendations and search results, and advertising, for example.

- **Analysis** — The ability to derive insights from the data that inform the next best action or other customer interaction.

Figure 3 shows relevant customer-centric data management technologies and their support for these essential tasks. Many vendors have opportunistically repackaged or repositioned existing capabilities as CDPs, and some have overlapping capabilities, which has caused still more confusion about the resulting technology and feature overlaps. For definitions of the technologies, see Note 1.
**Related Research**

**Establish the 5 Components of Marketing Data Management**

Learn how data acquisition, organization and storage can help you analyze and deliver insights across your marketing organization.

**Critical Capabilities for Multichannel Marketing Hubs**

Customer profile management is a critical toolset for managing multichannel customer interactions. Multichannel marketing hubs rely on this capability to create, orchestrate, execute and measure experiences across devices and channels.

**What Data and Analytics Leaders Need to Know About Customer Data Platforms**

Data and analytics leaders are often unsure about the optimal use cases for customer data platforms. D&A leaders must understand the customer data platform landscape and the user requirements that customer data platforms support.

**Assessing the Impact of Implementing a Customer Data Platform**
Customer data platforms promise to improve customer experiences through the aggregation and segmentation of historically siloed customer data sources. Application technical professionals responsible for CRM technologies should use this research to understand the impact of implementing a CDP.

**Improve Efficiency and Digital Marketing Data Governance With Tag Management**

Digital marketing leaders should use this research to understand how and why tag management plays a key role in their customer data collection, management and modeling efforts.

**Don’t Confuse Customer Frameworks With Customer Data Management**

Several key customer frameworks are too often misinterpreted as customer data management technologies. In reality, they are frameworks or design platforms. They play an important role in leveraging customer data, but they are not data management tools. Some of the most important frameworks and design platforms are listed in Figure 4.

**Figure 4. Important Customer Experience Frameworks and Design Platforms and the Support They Offer**

![Important Customer Experience Frameworks and Design Platforms and the Support They Offer](image-url)

**Source:** Gartner 744177_C

**Related Research**

**The Elusive CRM Magic Quadrant**
Gartner has multiple CRM Magic Quadrants because there are insufficient unifying characteristics for there to be just one market. Application leaders supporting CRM can use this research to navigate the landscape of CRM Magic Quadrants and Market Guides.

**Why Marketers Choose Multichannel Marketing Hubs**

Digital marketing leaders investing in multichannel marketing hubs are focused on vendors’ understanding of their business needs and ability to help them achieve revenue growth goals.

**Defining the Digital Experience Platform**

Digital experiences are at the heart of many digital transformation programs. Digital experience platforms are a key technology in powering digital experiences.

**Magic Quadrant for Personalization Engines**

Personalization engine vendors are adapting to meet the needs of marketing leaders. They are focusing solutions on methods to increase customer success by deepening customer data management functionality and expanding support for personalized CXs.

**Evidence**

This research is based on Gartner client inquiries across the areas of CX, marketing, commerce, sales and data management, as well as published research from Gartner analysts covering the fields of marketing, sales, digital commerce and services.

**Gartner 2020 Digital Commerce State of the Union Survey:**
Gartner 2020 Marketing and Data Analytics Survey: The purpose of this study was to better understand the current approaches to marketing analytics that support marketing strategies to enable future growth and success. The primary research was conducted online from June through July 2020, among 415 respondents in North America (49%) and Western Europe (51%). Eighty-three percent of the respondents came from organizations with $1 billion or more in annual revenue. The respondents came from a variety of industries (number of respondents in parentheses): financial services (68), high tech (52), manufacturing (65), consumer products (37), media (60), retail (51), healthcare providers (30), travel and hospitality (27), and IT-business services (25). This year’s survey had a split panel, with 209 producers of marketing analytics and 206 consumers of marketing analytics. Producers of marketing analytics were required to have high involvement in producing marketing analytics used to inform decisions. Consumers of marketing analytics had to have a high level of involvement in decisions informed by marketing analytics.

The survey was developed collaboratively by a team of Gartner analysts and was reviewed, tested and administered by Gartner’s Research Data and Analytics (RDA) team.

Disclaimer: Results of this survey do not represent global findings or the market as a whole, but do reflect the sentiments of the respondents and companies surveyed.

Note 1. Definitions of Customer-Relevant Data Management Technologies

Technologies for Enterprise Data Management Capabilities

- **Enterprise data warehouse (EDW):** An EDW is a storage architecture designed to hold data extracted from transaction systems, operational data stores and external sources. It is optimized for analytics on historical data stores and is typically used as a data source for business intelligence.

- **Logical data warehouse (LDW):** The LDW is a best-practice analytics data management architecture and design that combines the strengths of traditional repository warehouses with alternative data management and access strategies.
- **Master data management (MDM):** MDM is a technology-enabled business discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, governance, semantic consistency and accountability of their enterprise’s official shared master data assets. Master data is the consistent and uniform set of identifiers and extended attributes that describe the core entities of the enterprise, including customers, prospects, citizens, suppliers, sites, hierarchies and chart of accounts.

- **Data hub:** A data hub is a design pattern that layers data and analytics governance requirements upon information-sharing demands to establish the technology decisions needed for data integration.

- **Data lake:** A data lake is a collection of storage instances of various data assets additional to the originating data sources. These assets are stored in a near-exact, or even exact, copy of the source format. The purpose of a data lake is to present an unrefined view of data to only the most highly skilled analysts. It helps them explore their data refinement and analysis techniques independently of any of the system-of-record compromises that may exist in a traditional analytic data store (such as a data mart or data warehouse).

Technologies for Customer-Specific Data Processes:

- **Customer data platform (CDP):** A CDP is a marketing system that unifies a company’s customer data from marketing and other channels to enable customer modeling and optimize the timing and targeting of messages and offers.

- **Customer identity and access management (CIAM):** The term “CIAM” refers to consumer-facing identity and access management capabilities, more specifically user registration, social login, and user profile and consent management.

- **Data management platform (DMP):** A DMP is software that controls the flow of data in and out of an organization. It supports data-driven advertising strategies, such as segmentation.

- **Digital personalization engine (DPE):** A DPE identifies the optimum experience for an individual, based on knowledge about that person, for marketing, digital commerce and CX use cases.
- **Multichannel marketing hub (MMH):** An MMH orchestrates a company’s communications and offers to customer segments in a multichannel environment involving, for example, websites, mobile devices, social media, direct mail call centers, paid media and email.

- **Tag management system (TMS):** A TMS simplifies the deployment and maintenance of JavaScript tags used in online content to interface with applications such as web analytics, personalization and advertising. A single tag replaces all other tags and, after execution, a tag manager publishes other tags based on business rules and a common data model. This decouples tag control and maintenance from the life cycle of other content, improves the speed of changes, enhances the quality of tags and provides an audit trail.

### Technologies for Customer Frameworks That Rely on Data Management:

- **Customer relationship management (CRM):** CRM is a business strategy that optimizes revenue and profitability, while promoting customer satisfaction and loyalty. CRM technologies enable strategy, and identify and manage customer relationships, in person or virtually. CRM vendors offer functionality to companies in four segments: sales, marketing, customer service and digital commerce.

- **Digital experience platform (DXP):** A DXP is an integrated set of technologies, based on a common platform, for delivering digital experiences. Organizations use DXPs to build, deploy and continually improve websites, portals, mobile and other touchpoints.

### Document Revision History

*Use Customer Data Management Technologies to Deliver Better Customer Experiences - 27 September 2019*