Customer Data Platforms

For Modern Direct Marketing

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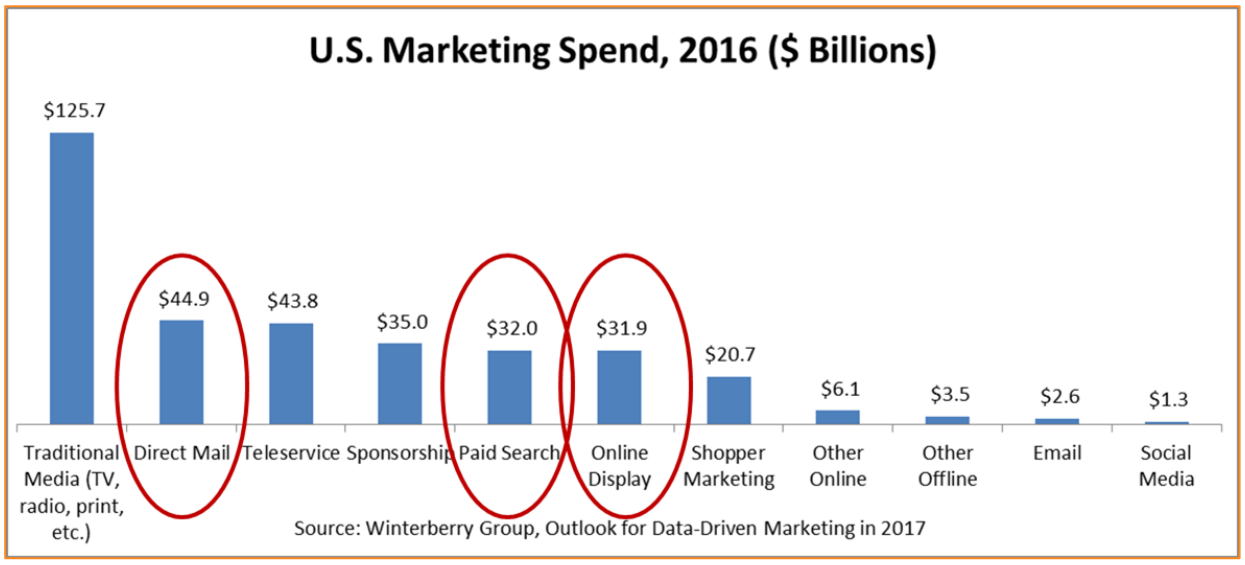
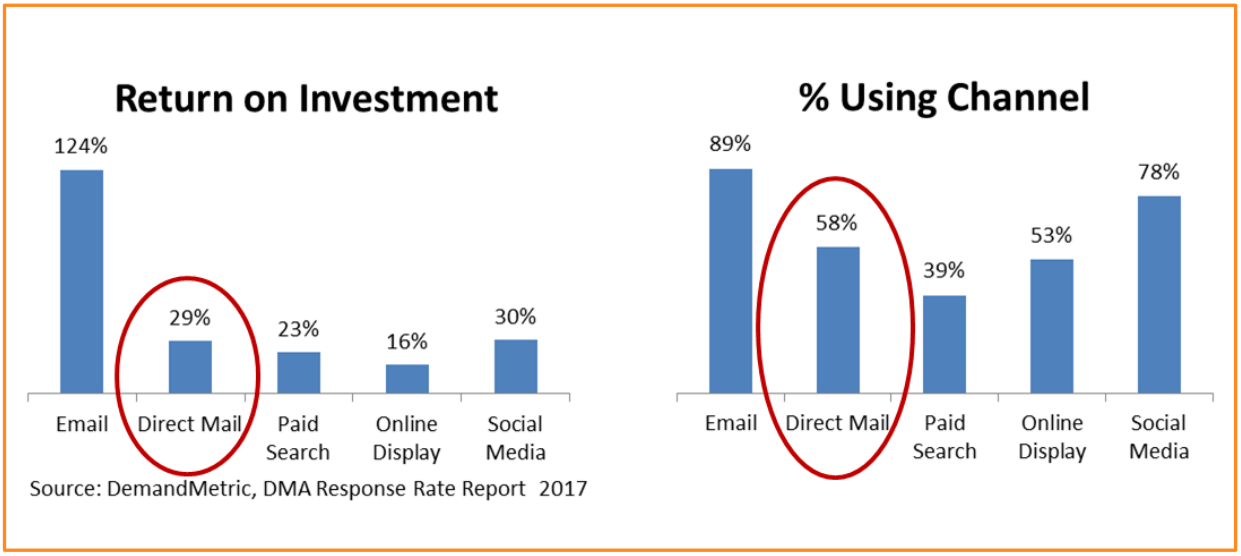
Executive Summary

Direct marketers' needs are changing faster than marketing services providers can keep up. Systems designed when computers were run by specialized technicians in air-conditioned rooms are no longer enough in a world where marketers expect instant access and total control over their data from a smart phone. This paper explains what direct marketers should look for in systems to meet their needs for modern multi-channel marketing.

Introduction

Any reports you've heard about the death of direct mail are greatly exaggerated. In 2016, marketers actually spent more on direct mail ($45 billion) than on either search or display advertising ($32 billion each). Direct mail also has a higher return on investment than search and display and is more widely used than either channel.





But while direct mail isn't dead, it's certainly changing. Consider this: 61% of direct mail marketers now track direct mail response by measuring Web traffic with personalized URLS. As that example nicely illustrates, direct mail drives traffic to digital channels and digital channels capture data that helps to improve direct mail. Online marketing and direct mail cannot operate in isolation from each other. This means that marketing systems in general – and marketing databases in particular – must support both.

How We Got Here

Traditional direct mail systems were based on lists. Marketing services providers built systems to import rented lists from brokers and customer lists from order processing systems, to merge the two sets of lists, and to produce another list to send to mail houses for delivery. Email systems worked the same way. To the extent that information about customer behaviors was used in direct marketing systems, it rarely extended beyond enriching lists with codes for simple demographic attributes and recency-frequency-monetary value (RFM) segments. Selections and analyses were then made by picking segments from lists.

Given the limitations of computer technology before the current "big data" era, lists with segment codes were the most practical way to manage direct marketing data. But they meant that marketers couldn't access the underlying details directly. Any analysis that involved data not already encoded in a segment tag required complicated, highly technical work to extract the raw data, summarize it appropriately, and prepare custom reports. Only the most advanced direct marketing organizations had statisticians and data analysts on their own staff who could do this. Some marketing services providers made similar experts available to their own clients, although using them was often expensive and slow. Many marketing service providers and their clients simply did without.

Web marketing changed everything. Web sites generate huge volumes of complex data that doesn't easily fit into a standard database, let alone a simple list. Moreover, the constant innovation in Web channels meant marketers were often adding new types of data and didn't know in advance what they'd need to analyze. In the end, all they could do was insist on having the raw details available.

At the same time, "big data" technologies like Hadoop made it practical to meet these demands by storing such data online and extracting it on request. Other technologies made it possible to cross-reference information from different sources and build a unified view of each customer across channels. Improved user interfaces slowly developed to let less technical users to do more of the data access and analysis for themselves.

As a result of these changes, today's direct marketers have the opportunity to work with data of vast complexity using tools of unprecedented power. What they need to do this is access to the latest technology.

Requirements for Direct Mail

Today's direct mail programs are different from programs that ran five or ten years ago. They're more tightly integrated with digital channels, more reliant on data for advanced targeting and personalization, and more likely to change quickly in response to new conditions. At the same time, companies with decades of direct mail experience have evolved complex, refined processes that cannot be simplified without harming their results. Features they need in any new system include:

- Data ingestion from offline sources. The foundational sources are promotion history and responses. Even these can be complicated: promotion history needs to track not just the date, but the details of the promotion (products offered, images used, positioning, price levels), promotion context that could influence results (season, local weather, news and economic events, etc.), and information about the recipient (source, demographics, model scores, segment, channels of interaction, etc.). Similarly, response extends beyond what they bought to include response channel, items they considered (e.g. abandoned shopping carts, out of stock orders, substitutions), payment details, and any problems they had with shipping, damages or returns. Other offline data could come from point of sale systems for retail purchases, call center interactions including inquiries and customer service requests, warranty cards, field service, and more. Elements of this data may need to be parsed, tagged, classified, mapped to specific fields, standardized, and otherwise prepared so it can be used for analysis and segmentation relatively easily.

- Name and address cleansing and enhancement. Special processes are needed to clean, standardize and verify customer names and postal addresses. The technology for this is central to older marketing systems but not always present in newer products. These processes may also add data such as latitude and longitude coordinates political boundaries, utility service areas, and geo-demographic clusters. The system may need to periodically refresh some of this data if it changes over time.

- Name and address matching. Basic name/address matching, typically based on "fuzzy matching" of similar text strings, is another traditional direct mail capability that isn't always built into newer systems. Conventional methods may be supplemented with matches based on external data sources, such as address directories, social media or loyalty programs. This data may be housed at the service provider or accessed remotely through an API.

- Selection grids. Any established direct mail operation will have standard techniques for list selection, including suppression rules, external pander files, recency-frequency-monetary value (RFM) segments, hot lists, predictive model scores, test splits, keycode assignments, and segment prioritization. Most companies will want to have those approaches available in a new system, even if they expect to stop using them in the future. Key requirements are likely to include:

    - calculating RFM and other segment codes and placing them on customer records;
    - creating very large selection grids (hundreds or thousands of cells) by automatically creating cells for each unique value of a single variable or combinations of variables (e.g., RFM cells by state);
    - modifying the auto-generated grid by excluding or combining individual cells;

- displaying cells in priority sequence and assigning names to the first cell for which they qualify
- moving cells up or down within the list to change selection priorities
- displaying waterfall counts that show the number of names in each cell and cumulative quantity for all cells up to that point
- adding test splits with standard options (a/b/n splits, random or Nth selects, top or bottom N selects, specifying a sample quantity or percentage, etc.);
- assigning content versions to each cell or groups of cells;
- automatically assigning keycodes to cells based on a user-specified formula or algorithm;
- generate lists of selected names including keycodes and content versions, and send to mail house or printer
- post selection lists and final mail files back into main customer database as promotion history

- Response reporting. Traditional direct mail programs placed keycodes on mailing labels and then captured those keycodes with orders. This let marketers analyze response by comparing the mail quantity for each keycode with the orders that included the keycode. Such reports could be prepared without examining the mail files or matching orders against those files, tasks that were difficult and expensive in the early days of computerization. Today, direct mail marketers who use keycodes for selection grids will still want to see response data by keycode. However, they are more likely to create these by matching promotion history against order history at a customer level within the database. They are also likely to use the database to create response reports for segments unrelated to keycodes. This allows marketers to explore segments that are defined after a mailing is sent and to analyze the impact of multiple promotions on customer behavior.

Requirements for Digital Channels

Digital channels include email, SMS, Web sites, mobile apps, paid and organic search, display ads, and social ads as well as social engagement. Email is sometimes managed using list- and keycode-based methods similar to direct mail, although this is increasingly being replaced by database-driven approaches such as triggered campaigns and dynamic content selection. Other digital channels are even more different from traditional direct mail. Requirements for digital channel management include:

- Data capture from digital sources. Email and Web behaviors are usually captured through JavaScript tags, which may be provided by the system or an external tag management system. Similarly, mobile data is captured using SDKs that may come from the marketing system or a third party. The marketing system also needs to ingest data via APIs, batch file imports, and sometimes database queries. Other data may come from landing pages and forms, online surveys, Web chats with human agents or chat bots, and social media.

- Unstructured data formats. Digital channels already include large streams of semi-structured and unstructured data, such as Web site session logs, chat transcripts, and social media posts. Non-textual formats are gaining importance, including voice, video, and virtual reality interactions. Data from all these sources must be parsed, tagged, classified, and otherwise processed to become usable.

- Flexible data models. Digital channels often introduce new data elements with little or no warning. Attributes such as location, language, weather conditions, or emotional state may not be part of a company's existing data model but start to appear in data feeds. The marketing system needs to easily store these items with minimal effort by system administrators or users.

- Large data volumes. Digital channels produce vastly more data than direct mail programs. The marketing system needs to easily store and access this data. Although most analysis will use data that has been refined into usable formats, marketers also need to store the raw inputs in case they need to extract additional details or apply new processes.

- Streaming and real-time ingestion. Web sites, mobile apps, social media, advertising, and other digital channels often produce continuous streams of data which must be ingested as it arrives. This is another process that requires specialized technology. In some cases, the marketing system must also react to the inputs in real time (e.g., to manage a chat dialog) or near-real-time (to send an order confirmation email). True real-time interactions are generally managed outside of the marketing database because it takes too long to ingest, process, and expose the data within the marketing system. But some systems include real-time components and others support near-real-time data ingestion, processing, and activation in specified situations.

- Real-time response. Even systems that can't incorporate new data in real time may be asked to expose existing data. Typical examples include model scores, next offer, or ad exchange bids that are calculated nightly and then delivered to interaction systems on request. Some systems update these items when data changes are recorded but not quite immediately. This is acceptable in some situations, such as a five second lag before a call center agent can see an order a caller has placed on a Web site. That same lag might not be acceptable within the Web site itself, which customers expect will adjust immediately after each action.

- Identity resolution. Digital channels create many different identifiers including cookies, email addresses, device fingerprints, and account IDs. These must be connected to create a unified customer profile. Features to look for include:

    - matching on common IDs, such as the same email address appearing on data from different sources
    - deterministic "stitching" of multiple identifiers, such as recognizing linking an email address to all accounts on a device once that email has been provided for one account on that device.
    - "fingerprinting" to identify a device based on multiple characteristics (model, software loaded, build time, etc.)
    - probabilistic matching of multiple devices to the same user based on evidence such as frequent use at the same time and place
    - external data from device graph companies that build their own databases of identifiers that belong to the same person, such as multiple devices or cookies matched with email addresses
    - cookie synchronization with ad networks and business partners, recognizing that different cookies refer to the same person or device
    - anonymous-to-known cookie match, linking a cookie connected to an identified individual with a previously-created anonymous cookie on the same device

- compliance with rules governing the use of personally identification information (PII), including situations where PII cannot be shared with data providers or 3rd party systems

- Audience creation. The marketing system can create profiles for both personally identified and anonymous individuals. Common anonymous attributes include location, products viewed but not purchased, referral source, number of visits, and interests inferred from content consumption or Web sites visited. Marketers may use these attributes to select audiences for external promotions, such as Facebook advertising (matched via email address) or display advertising (matched via cookie synchronization), retargeting, and content personalization. Although this process is ultimately nothing more than sending a list to execution channels and partners, marketing systems can use API connections to make it easier.

General Requirements

Marketers' needs have evolved in other ways that are not met by legacy marketing services systems and their operators. These include:

- Automated analytics. Omni-channel marketing programs often rely heavily on predictive analytics to identify segments, select channels, choose offers, pick content, set timing, and make other decisions. Automated technologies including machine learning and artificial intelligence are often essential to generating the volume of predictions needed to optimize the programs effectively.

- Speed, scalability, and adaptability. Marketers face increasing demands to set up programs quickly, adapt to new data sources and delivery methods, and deal with ever-growing data volumes. Systems must use modern and open technologies to keep up with these requirements.

- Ease of use. Older systems required highly trained operators to set up and execute marketing programs. This introduced delays and added effort as marketers conveyed detailed instructions to these operators and checked their work. Modern systems are much easier to operate, allowing marketers to move more quickly by doing more for themselves.

- Vendor support. Even with modern systems, marketers can run into technical and analytical challenges beyond their skill. Vendors still need staff to assist clients when this happens. The role of this staff has shifted from execution to training and advice, although marketers sometimes still need someone else to do the work because they lack the time or expertise. The same tools that make it easier for marketers to run modern systems also let vendor staff work more quickly, and therefore charge less, when they need to step in.

- Vendor expertise. The greater variety and complexity of omni-channel programs also means that marketers rely more heavily on vendors to stay aware of industry developments, expose them to new best practices, and understand how these apply to the client's own business. This reinforces the need for vendors to build deep expertise and take a consultative role with their clients.

- Broader deployment. Customer data is now used throughout the organization and by business partners to support sales, service, analytics, product development, and

other teams in addition to marketing. Marketing systems are often called upon to support strategic decision making, ranging from allocation of budget to understanding the customer life cycle and drivers of long term or lifetime customer value. Systems need to accommodate this broader range of users with different interfaces tailored to different tasks, skill levels, and access privileges.

- Greater control. Broader deployment also means that system security must be tightened to ensure that no one takes inappropriate actions, either by accident or with intent. The systems themselves need to be more carefully designed to meet new privacy regulations, which impose requirements about data access, accuracy, consistency, permissions, use, and audit trails. Companies, governments, and consumers increasingly recognize the importance of consumer data. They now see marketing systems as strategic resources that must meet the highest standards of enterprise stewardship and help companies harvest the greatest possible value from their contents.

What Next?

There's no question that marketing will continue to evolve in the future. Some developments are easily foreseeable while others will be unanticipated. The best way to start preparing is to meet the needs of the present. This alone will require enhancements to many systems that marketing and service providers have in place. Use this paper as a starting point for defining your own company's requirements for a system that will provide a solid foundation for future growth.

About Quaero

Quaero's Customer Data Platform (CDP) is a turnkey solution for monetizing customer data from any source - digital or offline. Data is cleansed with fully automated data management frameworks and unified with a state of the art identity resolution engine. The resulting 360° degree customer view is persistent and supports high performance marketing programs for the most sophisticated direct-to-consumer brands, retailers, publishers and agencies.

Quaero is the only CDP built for end users who live and breathe data on a daily basis. This includes analysts, data scientists, data engineers and agency campaign managers. Every data point in the Quaero CDP is available to drive stunning visualizations, deep drilldown 'what if' analyses and actionable analytic models; all through no-training-required interfaces that put the power of big data and the promise of machine learning into action today.

The Quaero CDP offers customers unprecedented facilities to access and control their data. Standard connectors to all major marketing automation systems and omnichannel marketing clouds, along with the ability for non-experts to develop custom connections, enables a seamless closed loop- no matter how complex the internal technology ecosystem. Fine grained security rules configuration, exhaustive logging and monitoring, and a privacy-by-design approach ensure that data access and data security coexist in balance for both personally identifiable (PII) and anonymous data.

All of this, plus two decades of experience partnering with leading marketers and data science teams, combined in a solution that delivers an immediate and lasting advantage to your business.

Contact:
Quaero
4235 South Stream Blvd, Suite 410
Charlotte, NC 28217
www.quaero.com
info@quaero.com

About the CDP Institute

The Customer Data Platform Institute educates marketers and marketing technologists about customer data management. The mission of the Institute is to provide vendor-neutral information about issues, methods, and technologies for creating unified, persistent customer databases. Activities include publishing of educational materials, news about industry developments, creation of best practice guides and benchmarks, a directory of industry vendors, and consulting on related issues.

The Institute is focused on Customer Data Platforms, defined as "a marketer-controlled system that maintains a unified, persistent customer database which is accessible to external systems."

The Institute is managed by Raab Associates Inc., a consultancy specializing in marketing technology and analysis. Raab Associates defined Customer Data Platforms as a category by Raab Associates in 2013. Funding is provided by a consortium of CDP vendors.

For more information, visit www.cdpinstitute.org.