

Data Quality for Marketers

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Data Quality for Marketers

Business decisions rely on data. Yet marketing data is often questioned by its users: more than half of CTOs and CDOs see low trust in marketing data as a significant challenge, and 31% of CMOs agree.¹ At least partly as a result of low confidence in the available information, just 43% of marketers report they use data to guide their marketing strategies and 46% of C-level executives choose gut instinct over data sometimes or always.²

Yet the value of quality data is well documented: Forrester found that data quality leaders show better performance across metrics from brand awareness to customer satisfaction to lifetime value.³ Similarly, Experian reports that better data management yielded improved revenue and lower costs at 77% of companies, and better customer experience at 83%.⁴

The real question, then, isn't whether companies need to improve their data quality but what's holding them back. And, even more important, what can your company do to overcome those barriers? Read on to find out.

Data Quality Is Hard

Let's state the obvious: if high data quality were easy, every company would have it. But data quality isn't easy, and customer data poses a special challenge. Some of the most important factors include:

- **More data.** Customer data comes from an increasing range of sources in an increasing variety of formats. Companies that until recently were limited to transactions and CRM data can now collect website behaviors, customer support data, product usage, mobile device information, social media interactions, and much more. They can further expand their collection by buying or exchanging data from other firms. Every one of these sources needs to be analyzed, standardized, and integrated before it's available for use. Many of these tasks rely on technical experts whose time is limited and whose skills are needed to support many different projects.
- **More users.** Customer data isn't just for marketers anymore. Digital transformation projects have shown that sales, support, service, operations and product teams also need it to deliver an optimized, unified experience. Each new user adds another layer of requirements related to their particular purposes. These requirements are more likely to overlap than to conflict, but they add complexity to the data quality process in either case.
- **More people.** As data is used outside of the systems that originally captured it, the people doing the data capture are increasingly removed from the people using it. This puts new burdens on IT, data governance, and privacy teams to understand the origins and features of each new input, the requirements for each new application, and rules and processes required to present the right data in the right condition in each case. Making the challenge still greater, the explosion in data use means each of those teams are themselves larger, adding a need for better internal coordination and communications.
- **More impact.** As data is used more broadly across departments, and more deeply within each department, that impact of any error is multiplied by the number of processes that depend on data being correct. The direct financial impact of poor data by itself is staggering: Forrester estimates that

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21 cents out of every media dollar is wasted due to poor quality³ while IBM estimates that from 20% to 40% of customer profiles in a typical advertising campaign are duplicates⁵

Beyond narrow cost measures, 72% of decision makers say that poor data has hurt customer relationships at their company and 76% say it has led to missed revenue opportunities.⁶ Expanded privacy regulations have added yet another cost to poor data, as companies are held legally responsible for maintaining accurate data, sharing it with customers when asked, and protecting it from unauthorized use.

Help Is Available

The first data quality expert was probably a scribe in Mesopotamia who tried to prevent stray gashes in his clay tablets. The problem became much more acute once computer systems were widely deployed. Today, data quality is a mature field with ISO standards, lexicons, best practices, text books, university courses, professional associations, conferences, and at least one academic journal.

Without getting mired in the details, anyone making decisions about data should understand some basic data quality concepts. These would include:

- **Definition.** Data quality can be broadly defined as “fitness for purpose”. The key point is there’s no absolute standard; rather, data is always evaluated in the context of how it will be used. In a data set used to select clothing sizes, information about hair color is irrelevant. In a data set used to select hair treatments, precise and accurate details about hair color might be essential. In a business context, it’s worth extending this definition to include trust that the data is fit for purpose; without trust, decision-makers may ignore even the most accurate and appropriate data set.
- **Measurements.** Experts typically offer a long list of data quality metrics such as “accuracy, completeness, consistency, currency, precision, privacy, reasonableness, integrity, timeliness, uniqueness and validity”⁷ with precise definitions for each one. Non-experts might want limit themselves to two concerns: (correspondence between the data and the actual state of whatever the data describes) and completeness (how often a particular data element is available). Most of the other standard dimensions describe different aspects of accuracy. When choosing which metrics to consider, always bear in mind “fitness for purpose” and trust as the goals. (In fact, the quality experts define quality standards for those metrics, along the lines of “relevant, measurable, accepted, owned and have a transparent ability to be tracked.”⁷ No doubt there are standards for those standards as well.)
- **Process.** It’s worth distinguishing the process of setting up a quality program from the process of running that program.

The set-up process includes:

- Assessment of existing data, including discovery of what’s available and profiling of what it contains
- Setting standards that data must meet, including defining the metrics, setting thresholds for meeting the metrics, and setting rules for treating values outside the thresholds
- Executing the program, which involves many separate tasks (see next section)

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- Managing the program, which includes monitoring task execution, handling exceptions, analyzing root cause of problems, and adjusting the quality standards to accommodate changes in data sources and uses

Tasks in the execution process include:

- Collecting data for evaluation
- Parsing data into elements that can be evaluated
- Standardizing data into consistent formats, often through use of reference tables
- Cleaning data to remove or correct invalid elements (such as, a street name that does not exist)
- Matching and relating identifiers to build an identity graph (this is not always relevant)
- Enriching data with related information (such as adding political jurisdictions to an address or demographics to a household)
- Updating a master record (if the system is maintaining a “Golden Record” that represents the best value known for a particular item, such as proper spelling of a name or most recent address for a person)
- Distributing data by sharing information with other systems; this applies especially to sharing information from the master record so all systems have the same version of the data
- Lineage reporting, which is tracing the source of a piece of data and any changes made during the data quality process

Some experts may combine or split some of these steps, or add others entirely. What’s important is to recognize that each step is needed and to consider how it will take place in any quality process you build or consume.

- **Technology.** There are systems available to help with every task in the data quality process. These vary greatly in the scope and sophistication of their functions, scalability, integration, user skills required to set up and operation, operating platforms, cost, and other dimensions. Many perform more than one task.

This variety of options makes it more likely that a system is available that meets any particular set of needs, but also makes it harder to find that right system. As with any technology acquisition, users must clearly define their requirements in order to make a sound choice.

One fundamental decision is whether to use specialist data quality products or to rely on data quality features embedded in a larger system such as an ecommerce platform, data integration tool, or Customer Data Platform. Each option has advantages and disadvantages:

- Stand-alone systems provide a single tool for their particular functions. This means quality processes can be defined once and then applied to all data that requires those processes. This reduces effort, ensures consistency, and enables companies to invest more work in building sophisticated quality techniques. Stand-alone systems may have more advanced functionality than embedded tools, although this isn’t always the case.
- Embedded functions are likely to be provided without additional cost. There is no separate integration to connect them, as there is with a stand-alone system. Because they are often embedded in the system where the data originates, it may be easier to improve the quality of the data as it is captured, rather than attempting to fix it later. Similarly, if data quality processes are

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applied when the data is captured, there is no subsequent delay while data is run through a separate data quality system, reducing the time before the data is available for other functions.

- **Governance.** No matter how much technology is deployed, every data quality process still requires human oversight. Data stewards are often charged with ensuring the quality of data collected in source systems. Technical staff monitors system operations to ensure that files are being received and processed on schedule. Data experts may review inputs that a system has flagged as questionable or make decisions about cases a system cannot resolve automatically. In some situations, human review is required by regulations that do not allow companies to rely entirely on automated processes.

Further reading

Articles

- Silo.Tips, [Data Quality Maturity](#)
- Data Crossroads, [Data Management Maturity 101](#)
- University of Stanford, [Data Governance Maturity Model](#)

Associations

- [IQ International](#)
- [The International Association For Data Quality, Governance and Analytics \(IADQGA\)](#)

How to Proceed

It's true that marketers can take advantage of the techniques and technologies developed by data quality experts. But that doesn't mean marketers can rely on those experts to solve all marketing data problems. There are several reasons:

- Customer data is different. Most data quality work has been focused on conventional transaction data, which is much more structured than customer data. In particular, the nuances of resolving identities based on address matching and behavioral signals are unfamiliar to most data quality experts. Data quality techniques designed to avoid errors in inventory data or human resources files are not necessarily appropriate for customer information.
- Marketing applications are unfamiliar. Data quality experts are often unfamiliar with requirements of marketing tasks such as customer segmentation and offer recommendations. When these have been done at all in an organization, they were usually handled by data scientists or marketing analysts who prepared the data for themselves.
- Change is constant. Marketers are constantly adding new systems and reconfiguring existing systems as they explore new ad media, contact channels, sales techniques, and product capabilities. Conventional data quality techniques were designed for a more stable environment. Data quality experts trained in those techniques will need time to find methods more appropriate for the marketing environment.

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- Marketers are increasingly on their own. Marketing departments today often manage a large number of their own systems, with minimal support from corporate IT or data teams. Data quality experts on those teams are not always available to help marketers set up their own data quality programs. This leaves marketers to find their own data quality experts or to set up quality programs with limited expert help.

In short, the existing base of data quality tools, techniques, and experts is valuable but not enough to meet all marketing needs. This means that marketers must learn to take advantage of those resources' strengths while compensating in areas where they are weak. We suggest a three-step approach:

- Define data quality requirements. Always bear in mind that data quality is relative to data uses. Start by defining what data you need for your current and future programs, prioritizing goals with high business value. Then build a list of the resources needed to deliver that data, considering data sources, quality standards, process flows, quality tools, outputs, and metrics.
- Identify your gaps. Compare the resources you need with the resources you have in place. This will reveal gaps that need to be filled to reach your business goals. But don't stop there: also assess the cost and value of closing different gaps, so you can focus on those that are worthwhile. Always consider people and process as well as technology.
- Set your strategy. Once you've identified your gaps and decided which are worth closing, you can build the requirements checklists needed to evaluate alternative solutions. Start at the high level with strategic decisions including:
 - Central or distributed management: will data quality be run by one central group or will it be delegated to the teams responsible for particular data sources or applications? A central group may create more consistency and share more resources across applications. But a distributed approach may be more responsive to specific local needs. The optimal solution is almost always a mix of both, so put your energy into deciding how to set that balance.
 - Internal or external services: will your data quality program be set up by internal staff or outside experts? Internal experts will know your business better and may have a deeper commitment to its success, but often they won't be familiar with marketing data quality in particular. External resources can be selected based on their marketing data expertise and may be more responsive to marketing needs if they're hired by the marketing department. If internal staff isn't available, the decision is easy because external resources are your only option – unless you're willing accept the high but hidden costs of not addressing the data quality problem at all.
 - Build or buy: will you build your own data quality tools or purchase commercial software? In general, it's more effective, faster, and cheaper to buy than build. The only exception comes when building your own system would add a competitive advantage you can't get from commercial software AND you have the resources to build successfully AND there's no higher value use for those resources. Those are rare conditions but it's still worth considering.
- Look for solutions and build a deployment plan. With your strategy in place, you can begin to look for specific systems that fit the strategy and meet your requirements. This is where you can revisit questions such as whether to use embedded features or buy stand-alone data quality systems. Major steps include:

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- - Define system requirements. Identify the specific capabilities that you need to add to your existing resources, based on your assessment of data needs and current data quality issues. Beyond the processing methods, include ability to handle your required data volumes, time windows, and real-time response.
 - Research and select solutions. Identify available vendors and assess them against your requirements list. Be sure to test against sample data, preferably from your own systems. Hands-on experience is the only reliable way to understand the subtle differences between products.
 - Set up your program. The first set-up steps, assessment and standards definition, must be completed before you select your tools. Subsequent steps, such as setting up process flows and monitoring procedures, must wait until you have a system in place.
 - Execute, monitor, and improve. Once the program is running, you'll need to monitor the quality of the data you are receiving, the quality processes you apply to that data, and the final outputs. These must all be judged against agreed-upon standards. Plan for continuous changes and improvements as your needs and capabilities evolve over time.

Keep the Goal in Sight

The goal of data quality is not perfect data: it's data that's fit for its purpose. You can never reach that goal because there are always new data and new purposes to pursue. What you can reach is a process that monitors and manage data quality to problems are identified and resolved quickly and effectively. Developing that process is especially challenging for marketers because their needs are not always met by conventional data quality methods. Marketers should think carefully about what it will take to reach their goals and assemble the right resources to achieve success.

1 Adverity, [Marketing Analytics State of Play 2022](#)

2 Alation, [State of Data Culture Report, Q3 2021](#)

3 Forrester Consulting, [Why Marketers Can't Ignore Data Quality](#), 2019

4 Experian, [Data Experience: The Data-Driven Strategy Behind Business Growth](#), 2021

5 IBM, Journey to AI Blog, [How in-line address data quality delivers business ready data for AI initiatives](#), 2020

6 SnapLogic, [The State of Data Management – The Impact of Data Distrust](#), 2020

7 UK Higher Education Statistics Agency, [Data Capability Toolkit](#)

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About Redpoint Global

With Redpoint's software platform, rgOne, innovative companies are transforming their customer experiences across the enterprise and driving higher revenue. Redpoint's solutions provide a remarkably unified, single point of control where all customer data is connected and every customer touchpoint intelligently orchestrated. Delivering the perfect customer experience – more engaging, highly personalized moments, relevant next-best actions, and tangible ROI—this is how leading marketers lead markets. To learn more, visit www.redpointglobal.com.

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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, best practice guides and benchmarks, directories of industry vendors, and consulting on related issues.

The Institute is managed by Raab Associates, a consultancy specializing in marketing technology and analysis. Raab Associates identified the Customer Data Platform category in 2013. Funding is provided by a consortium of CDP vendors.

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