



Compliance in an Age of Big Data: The Power of Master Data Management

Table Of Contents

- The Challenge of Compliance in an Age of Big Data..... 01
- Introducing Master Data Management 01
- The Regulatory Landscape: An Overview..... 02
- The Cost of Non-Compliance 03
- How to Stay Compliant Using Master Data Management..... 05
- Measuring the Success of MDM for Compliance..... 06
- The IDC Perspective 08
- The Semarchy Advantage 08
- Customer Success Stories..... 09
- Conclusion 10

The Challenge of Compliance in an Age of Big Data

Your business is accumulating data faster than ever. This data contains a wealth of information you can use to drive growth, but as data grows, so do the regulations that govern it.

The cost of data breaches and regulatory non-compliance can reach millions.¹ The standards your business must meet for privacy, security, consent, and transparency also present huge operational challenges.

There are multiple data protection regulations governing different industries and specific aspects of data use, but they share at least one concern: they require you to know where all your data resides and how it's being used.

This is a challenge when enterprise data accumulates quickly from multiple sources. Every new customer, product, transaction, employee, and location generates new information that needs to be stored and used in line with regulations.

The problem is business data often ends up scattered and siloed across disparate systems. When data is fragmented, it increases the chance of duplicate, inconsistent, and inaccurate information, making it hard to stay compliant.

Some 64% of businesses report issues staying compliant because of data quality problems.²

For example, GDPR's 'right to be forgotten' rule requires your business to delete all personal information about a customer when requested. It's difficult to be certain you've captured and removed all of a person's data when their information is duplicated and fragmented across multiple systems. If it later turns out that you've failed to fulfill this request, your business could be subject to hefty penalties.

So, what can you do?

Introducing Master Data Management

Master Data Management (MDM) is the process of consolidating your data into a central repository. You can then manage all your data from this single source of truth, also known as a golden record. This makes compliance easier, as you can discover, govern, and organize all your data in one place.

Importantly, MDM deduplicates your data, making it fully traceable and auditable. You always know where your data is and how it's being used.

Using the GDPR example, MDM lets you fulfill 'right to be forgotten' requests with confidence. When operating from a single MDM hub, you can quickly locate and remove data as requested. You get peace of mind there's no customer information lurking on a forgotten spreadsheet or dusty server.

You can also use MDM to define formal data roles. That means you know exactly who in your organization is responsible for managing and securing data at every interaction. You benefit from greater security across your enterprise, with firms using MDM experiencing 25% fewer data breaches.³

Few industries are more regulated than finance, so it's telling that over 70% of financial services companies plan to or have already implemented MDM as a key part of their compliance strategies.⁴

Master Data Management is an effective way of staying compliant in an age of big data, but the benefits of MDM also extend beyond compliance. With a single source of truth, you can make informed decisions that drive growth, improve efficiency, reach customers, and boost ROI across your organization.



The Regulatory Landscape: An Overview

Non-compliance with data protection regulations can result in large fines. For instance, the maximum penalty for a GDPR infringement is €20 million or 4% of annual global turnover – whichever is greater.⁵ A large data breach will also hurt your reputation, likely leading to a loss of sales. It's important, then, to be aware of the regulations relevant to your business.

Here's an introduction to five key regulations:

General Data Protection Regulation (GDPR)

GDPR gives individuals from the EU greater rights over their data. GDPR restricts how organizations can collect and use data and tells businesses how they must protect it.

GDPR applies to organizations outside the EU if they process the personal data of EU or EEA residents. For example, if you're a US business with customers from Europe, you need to comply with GDPR.

Sarbanes-Oxley Act (SOX)

SOX imposes strict regulations on how organizations maintain financial records. SOX requires businesses to have robust internal controls to stop the alteration of financial data for illicit purposes. That means always knowing where sensitive data is stored, who accesses it, and what they do with it.

SOX applies to organizations in the US and any organization that does business in the US, even if based elsewhere.

California Consumer Privacy Act (CCPA)

Similar to GDPR, CCPA gives consumers control over their personal information. For example, CCPA gives consumers the right to know what data organizations collect and how it's used. Consumers have the right to have their information corrected and deleted, plus the right to limit the use, sale, and sharing of their data.

CCPA protects residents of the state of California, so its requirements can apply to any business collecting data on Californian residents.

Payment Card Industry Digital Security Standard (PCI DSS)

PCI DSS is an information security standard that maintains security controls for cardholder data. Among other things, it requires organizations to protect cardholder data with a robust information security policy that limits access to data to those who 'need to know.'

PCI DSS applies to all organizations that store, process, and/or transmit cardholder data.

Health Insurance Portability and Accountability Act (HIPAA)

HIPAA sets standards for the storage and privacy of medical data. HIPAA protects health information from unauthorized access by requiring IT departments to limit data access, monitor log-in attempts, track user activity, and more.

HIPAA law applies to medical facilities, health insurance companies, HMOs, healthcare billing services, and any other entity dealing with healthcare data.

The Cost of Non-Compliance

Data protection regulations typically provide broad guidelines on how to comply. However, it's up to you to understand which regulations apply to your business and how you can stay on the right side of the law.

Failure to comply with relevant regulations can result in civil and criminal penalties. Three notable cases make the point:

- In May 2023, tech giant Meta was hit with a record-breaking \$1.3 billion fine for GDPR infringements. The issue centered on the transfer of the personal data of EU citizens to the US without adequate data protection mechanisms in place.⁶
- In July 2022, T-Mobile agreed to a \$350 million settlement for a class-action lawsuit following a data breach in 2021. The company committed to spending a further \$150 million on improved data security.⁷
- In January 2022, FinServ giant Morgan Stanley agreed to pay \$60 million to settle a legal claim relating to data security. According to claimants, Morgan Stanley failed to protect the personally identifiable information (PII) of clients by not adequately wiping clean decommissioned equipment sold to third parties.⁸

The staggering thing about many non-compliance cases is that they could have been avoided with the use of some relatively straightforward procedures and tools.

Much of it comes down to knowing where your data is stored, who's responsible for it, who can access it, and which systems are using it. An approach like this goes a long way to keeping you compliant. You can easily achieve these things with Master Data Management.

How to Stay Compliant Using Master Data Management

MDM helps you stay compliant by giving you a single source of truth for all your critical data. When you can manage financial data, credit card details, healthcare information, customer data, employee information, location data, and more from a unified hub, it's easy to track how this data is being used.

MDM also ensures data quality. This is vital for compliance, as data quality deals with issues like duplication, accuracy, and completeness. If these things are lacking, you'll find it hard to track and audit your data effectively.

How MDM Ensures Data Accuracy and Completeness

MDM helps you overcome issues with duplication and accuracy through better data cleansing, standardization, and validation:

Data Cleansing

- **Identification:** MDM lets you identify inconsistent data and missing information through data profiling techniques.
- **Matching and Duplication:** MDM helps you identify and merge duplicate records across different systems. This eliminates redundant information and ensures a single source of truth for your organization.
- **Correction and Completion:** You can cleanse and enrich data using MDM tools and workflows. It's easy for users to update data, correct errors, and fill in missing values based on predefined rules or external sources.

Data Standardization

- **Standardization Rules:** MDM allows you to define data formats, units of measurement, and codes. This ensures data consistency and makes sure everyone is on the same page when analyzing and using data to make decisions.
- **Data Governance:** MDM gives you a framework for data governance by establishing data ownership, quality standards, and rights of access. You get peace of mind about your organization's adherence to data quality guidelines.
- **Normalization:** MDM normalizes data by converting different representations of the same information into a consistent format. Your team benefits from easier data integration and analysis.

Data Validation

- **Data Quality Rules:** MDM lets you ensure data accuracy and completeness by defining data validation rules before data enters your system. These rules can check for data types, formats, and specific date ranges.
- **Data Matching and Enrichment:** You can use MDM to match data against external sources, like postal codes, tax IDs, or product catalogs to verify accuracy and to enrich data with additional attributes.
- **Real-Time Validation:** MDM systems can perform real-time validation as data is entered, which helps prevent errors from entering the system in the first place. In summary, MDM gives you peace of mind about the quality, compliance, and security of your data.

You also get a range of benefits that cut costs, boost efficiency, and drive revenue:

- **Improved Data Accuracy:** Make better decisions based on data you can trust.
- **Enhanced Data Governance:** Be confident in your data quality and security controls.
- **Streamlined Data Integration:** Enjoy faster integration between different systems.
- **Increased Operational Efficiency:** Save time with faster workflows and improved processes.
- **Better Customer Experiences:** Delight customers by building better experiences based on accurate information.

How MDM Facilitates Data Lineage Tracking and Audit Trails

Clear data lineage is essential for compliance, as easy-to-follow audit trails are a key part of regulatory reporting. It's essential to get this aspect of data management right, so here's a breakdown of how MDM can improve data lineage in your business.

- **A Centralized Data Repository:** MDM makes lineage tracing easier by eliminating the need to track your data across different systems. It does this by giving you a centralized repository for all your master data.
- **Data Lineage Capture:** MDM tools let you capture data lineage during data creation, modification, and movement. This includes information about the origin, transformation, and destination of data.
- **Lineage Visualization Tools:** See the complete journey your data has gone through. You get a clear understanding of how data has been manipulated.
- **Improved Audit Trails:** By capturing data lineage, MDM makes it easy to create comprehensive audit trails. Auditors can quickly see changes to data points and identify who made them and why.

MDM gives you visibility into the history of your data, from source to destination. This ensures data accountability, lets you maintain thorough audit trails, and helps you meet reporting requirements.

You benefit from:

- **Reduced Risk:** Clear data lineage helps identify and mitigate data quality issues.
- **Improved Efficiency:** Lineage visualization tools and robust audit trails help you cut audit cycle times.
- **Enhanced Data Governance:** Better data lineage tracking supports data governance by providing transparency into how data has been used and changed.
- **Simplified Reporting:** You can use MDM to create reports that prove your compliance. This reduces the burden of manually generating these reports, which saves time while keeping you compliant.

Measuring the Success of MDM for Compliance

The benefits of MDM are clear and quantifiable. That means you can measure the effectiveness of your MDM strategy to check it's returning the ROI you want.

The right MDM tool will make it easy for you to track the quality and compliance of your data over time. Evaluation of key metrics can also reveal areas for improvement in your MDM program.

This visibility into data quality lets you set minimum standards across your enterprise. With consistent and verifiable measures of quality in place, every data analyst and user understands how data should be treated at every interaction, for ongoing security, compliance, and peace of mind.

Here are some key metrics you can track to make sure you're getting maximum ROI from your MDM strategy:

- **Data Quality:** The percentage of accurate and complete data out of your total dataset.
- **Data Consistency:** The reduction in data duplication and inconsistency across systems.
- **Reporting Efficiency:** Time saved generating reports for regulatory audits.
- **Audit Trail Completeness:** The percentage of data with a clear audit trail.
- **Reduction in Regulatory Fines:** The decrease in non-compliance fines since you implemented MDM.

The IDC Perspective

Organizations across industries are adopting MDM to stay compliant in an age of big data. This is part of a wider trend in which data sovereignty and compliance are affecting IT decision-making.

In a survey by the International Data Corporation (IDC), around half of respondents (48%) said the issue of compliance has factored highly in discussions about IT architecture. Only 4% of respondents felt their organization would not be impacted by compliance considerations at all.⁹

With the importance of data protection growing, the IDC concludes that approaches like MDM are more relevant than ever:

“Enterprises...need technology solutions that provide a holistic view of how data is collected, classified, processed, and stored to ensure data regulations are being met.”¹⁰

MDM, then, is a strategic investment recognized across industries for its ability to give organizations control of their data and peace of mind about compliance.

The Semarchy Advantage

With MDM at its core, Semarchy Data Platform is used by organizations worldwide to drive compliance, efficiency, and growth.

You can deploy the platform in days, not months, allowing you to make fast improvements to compliance across your enterprise:

- Easily define privacy rules and access permissions to keep data secure.
- Gain unparalleled visibility into data lineage thanks to automatic tracking of data modifications.
- Prove your compliance with automatic audit reports.
- Save time with zero-code workflows for data stewardship, validation, and syndication.
- Connect to the apps of your choice with pre-built connectors for compliance applications.

You'll be fully supported during your migration to Semarchy, and an iterative process puts you in control of the cost and scope of your project.

You benefit from:

- **Rapid Time-to-Value:** Your MDM platform could be up and running next quarter. 80% of users measure ROI with a fully functioning solution in 12 weeks.
- **Business-Driven Interface:** An intuitive and user-friendly interface gets your team onboard quickly.
- **Low Total Cost of Ownership:** Enjoy the flexibility to deploy and manage data without extensive technical resourcing or extra training.
- **Implementation Support:** Rapidly generate data management apps to achieve business outcomes. 100% of Semarchy users met their implementation goal.

Customer Success Stories

Organizations around the world use Semarchy to extract maximum value from their data.

Visit Semarchy's case studies library to learn how businesses from different industries stay compliant, drive growth, and boost efficiency.

You'll learn about:

Chipotle

Chipotle used Semarchy to master data from over 2,500 stores. This led to greater efficiency and growth across the business:

- Improved compliance thanks to better data traceability.
- Lower operational costs with a single data management process.
- Better brand awareness and loyalty thanks to data-driven customer experiences.

National Student Clearinghouse

National Student Clearinghouse replaced its legacy IT system with Semarchy, which let the organization:

- Deduplicate and centralize vast amounts of data onto a single, trusted hub.
- Improve compliance by protecting sensitive information with robust data governance.
- Reduce financial, credit, and legal risks while managing privacy and data encryption from a single platform.

Brown-Forman

Brown-Forman used Semarchy to match and centralize huge volumes of data from over 170 markets, resulting in faster workflows and better business intelligence:

- Improved decision-making thanks to greater business transparency.
- Faster project delivery thanks to a central hub of trusted data.
- More effective pricing strategies based on accurate data for different markets.

Discover the real-world benefits of Semarchy for your business. Download these case studies and more from Semarchy's success stories library.

Conclusion

Your data is a goldmine of information you can use to drive sales, reach customers, and boost efficiency. However, keeping that data secure and compliant can be hard. Data protection regulations have strict requirements for how you use your data, and the penalties for non-compliance can hurt your revenue and reputation.

Master Data Management gives you the tools to stay compliant while extracting maximum value from your data. With Semarchy's Data Platform, you get the benefits of MDM and data governance in a user-friendly and business-driven tool.

To learn more, get in touch for a proof-of-value discussion and personalized demo. You'll see the platform in action and learn how it can be customized to your requirements.

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