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White Paper

Managing Master Data & Data Quality

Data Quality Strategies as a Basis for Successful Product Communication

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In recent years, many companies have made the decision to take business –related master data, such as customer, supplier, and product information, to redefine and integrate into a company-wide strategy.

Master Data Management

Technology-based discipline of business and IT to ensure consistent, accurate and responsible data objects of a system.

Data Quality Management (DQM)

Describes how to ensure the "use skill" of a data object within a process and/or IT application.

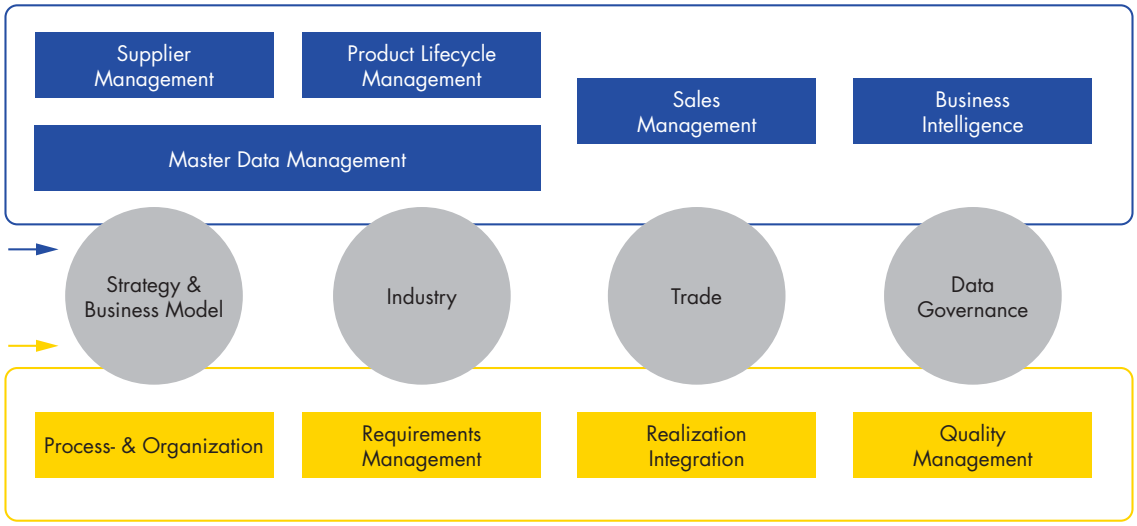
Product Information Management (PIM)

All relevant processes and IT components for data acquisition, data management and output

management for product-related information.

The product-related master data, such as part numbers, short texts, and technical characteristics form the basic structures of the product information management (PIM). The term PIM consists of IT systems bundled alongside, key data of the Enterprise Resource Planning systems, additional product-related knowledge, marketing information, and combines this information with structured media content such as pictures and video. The goal of a PIM strategy is essentially to fill out a consolidated, centralized database of all distribution channels with product information (single point of truth). The multichannel communication is based on it and includes not only electronic channels such as online store and order platforms, but also through high-automated print catalog print creation processes. The variety of roles involved (purchasing, marketing, product management, external agencies) in connection with most international and diverse line of products have special requirements for a continuous process definition and the supporting system landscape. Often, in the case of PIM projects, data quality is not considered as important, compared to other projects.

Business Process-Level Information Lifecycle

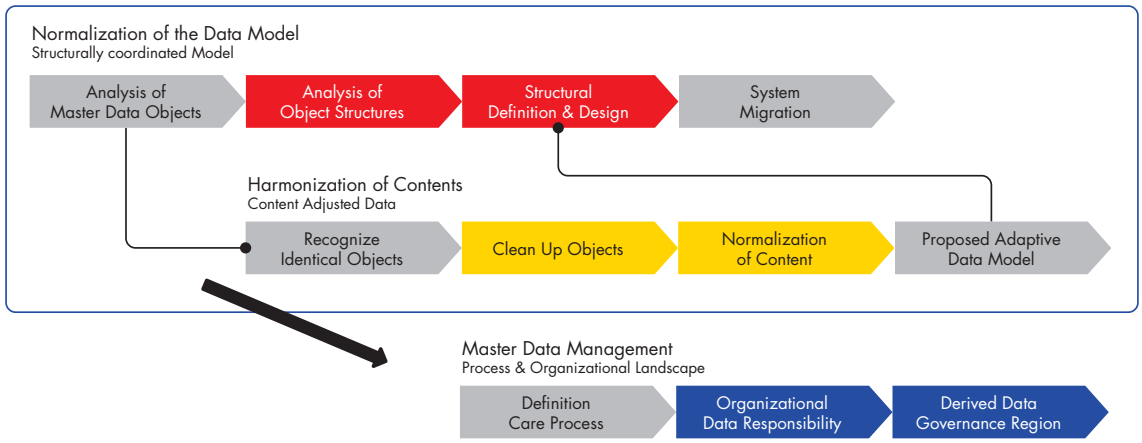


IT Value Chain

Architecture of the Information Lifecycle

Data Quality Management (DQM) as part of the MDM Strategy

Typical questions that data quality management helps to answer are: questions regarding different locations of master data for easy access, documentation, and clear quality criteria and matching instruments. The problem, in principle, is that data quality can always be improved, no matter at what level the quality moves! Therefore, building a DQM foundation is the first step of defining data quality objectives as a basis for selecting a justifiable initial project scope.



Action methodology master data management

A practice-proven process model manifests the integration of master data and quality policy with the aim to generate both a permanent grid usable for Master Data (MDM) –and the measurable "use skill" to make sure of every data object. Here, data quality is defined as the correspondence between observed features and pre-established requirements for the data in relation to their specific applications. For example, the qualitative requirements of a product data set in the context of an online store significantly differ from those claims that are made on the use of the same product in a printed catalog. In order to implement DQM, the first step is to detect the target criteria of the specific master data quality. Statutory and regulatory requirements, play an important role for company-internal issues as efficient management of suppliers, the aforementioned multichannel distribution model, or the standardization of reports and metrics.

DQM is defined as a system of rules (which are based on a coordinated MDM metadata model) that are derived from the objective definition of the necessary quality requirements for the improvement process. To support this process adequately, appropriate measurement methods and instruments are implemented. This particular principle for DQM is true: what cannot be measured cannot be managed! Therefore, on the basis of appropriate reports and metrics, both procedural and technical approaches such as suitable data storage architectures can be derived. Their successful implementation will be evaluated over time, always in the context of the DQM goals.

The DQM Tools

DQM tools need to be established to support the implementation process and to ensure the progress of measurement and evaluation. The applicability of the system-side implementation is to individually test and adjust the conditions.

(Data) Quality Gates

- Defined quality standards of transitions of systems and/or processes
- Definition of role responsibilities

Status of Concepts and Validation Rules

- Automated validation checks
- Content status-sharing

System-Side User Support

- Search mechanisms, task management and workflow support
- (layout-related) Product preview for visual inspection
- Roles and rights concepts with object views, and content-defined responsibilities

Reporting Tools

- KPI reporting framework
- Link with the additional data sources, such as, CRM, ERP, or commerce within the meaning of Business Intelligence

Organizational Measures

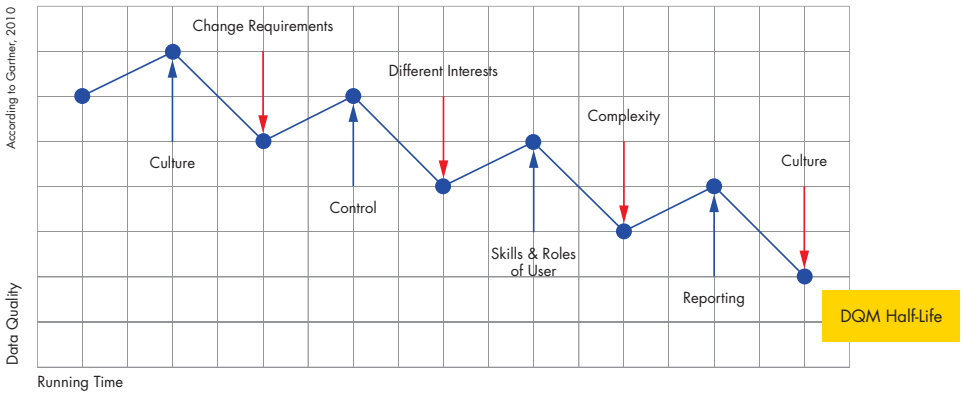
- Agree on Service Level Agreements (SLAs)
- Review cost center allocation models and bonus/malus systems
- Establishment of Standard Operating Procedures (SOP)

Data Governance Organized DQM

A DQM strategy is not applied statistically since changes in the target markets and legal requirements change constantly through the innovation of entrepreneurial context parameters. For group-wide coordination of DQM tasks, it is therefore necessary to assign responsibilities across divisions.

Here, data governance as an organizational concept, designates the (management) tasks to be fulfilled for an ongoing DQM process, such as the establishment of data quality strategy and principles, the definition of data maintenance processes and standards, the agreement of data quality targets and their integration into the incentive systems of the company. In addition, data governance identifies the corporate roles involved in the execution of the tasks. As a representative example, we will highlight the Data Steward as an overall responsible DQM role for strategy and implementation. This role, often set up as a staff position, holds the coordination activities in the supplying and receiving company units, and implements the DQM culture in its respective areas where it implements standards and principles. On the other hand, the Data Steward manages the area-specific DQM requirements and evaluates them in line with the overall strategy. In cases of dispute, a Data Quality Board with participation of company management decides inter-divisional issues and oversees the overall corporate data quality management.

Often a DQM Maturity Model is implemented for maturity measurements, which then determines the organizational establishment of data quality management. A maturity model helps assess the extent to how data is controlled, data managers and process owners assume their responsibilities for data quality and to the extent which common standards and guidelines are already enshrined in daily operations. It is obvious why the institutionalization of DQM structures makes sense: data quality management is defined on the recurring activities, overtime their data quality goals are not static, and on the other hand it describes the need to use the company's individual learning curve. Hence, for a combined MDM and DQM strategy in particular, it is important to understand that data quality management is not a singular task of IT.



Static DQM strategies are alleviated

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Worldwide Headquarters, 100 Cardinal Way, Redwood City, CA 94063, USA Phone: 650.385.5000 Fax: 650.385.5500
Toll-free in the US: 1.800.653.3871 informatica.com linkedin.com/company/informatica twitter.com/InformaticaCorp

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