The Future of Data Quality Management:

Maximizing Business Value by Leveraging SAP S/4HANA

Good data quality management is indispensable in today's data-driven world

It forms the cornerstone of informed decision-making, operational efficiency, and overall business success.
With the increasing prevalence of innovations in the digital transformation landscape, this offers opportunities within the field of data quality management. Nonetheless, many companies may not be well equipped to take advantage of these opportunities.

By ensuring that data is accurate, reliable, and consistent, businesses can make more precise decisions, enhance customer satisfaction, mitigate risks, and maintain a competitive edge in a rapidly evolving digital landscape. This results in efficient and effective supply chain, procurement and sales processes.

What are the Risks of Bad Data Quality?

Inaccurate, incomplete, or inconsistent data can lead to costly errors, misguided strategies, and eroded customer trust. Organizations rely on data to gain valuable insights, support critical processes, and comply with industry standards and regulatory requirements. Moreover, the lack of standard data quality management practices hinders the organisation's ability to keep the core clean in their current ERP landscape. Without effective data quality management practices, the integrity of data is compromised, restricting an organization's ability to harness its full potential. For example, incorrect supplier data results in longer sourcing cycles and incorrect materials. Poor customer master records lead to inefficiency, miscommunication and compromised customer and sales transactions.

Traditional DQM practices

Traditionally, the process of defining and requesting data quality rules involved Business SMEs and Functional resources, while IT and Technical teams were responsible for their development within data quality tools.

However, this approach often leads to a disconnect as the request and definition of data quality rules are stored in different locations, resulting in challenges when reconciling the two. Given the lack of alignment and transparency within data quality tools.

The traditional process of data quality management poses significant hurdles in ensuring seamless data quality **governance**.

Foundations of Data Quality Management

There are a few key pillars when it comes to managing Data Quality effectively. Ensuring that these pillars are set-up in your business can allow you to leverage your data as effectively as possible. The key components of Data Quality Management consist of the following:

- Central management of all your rules in one central location

- Definition of properties of your Data Quality rules in alignment with the business and key stakeholders

- Implementation of rules: Actual technical implementation of rules defined with business and stakeholders

- Data Quality Evaluation: Ad-hoc or regular evaluation of your master data

- Usage of Rules: You can decide to apply rules to all existing data in the system, or only to new data added in the future

Manage Data Quality rules centrally	Define the rule properties	Technically implement the rules	Evaluate your data quality	Use the defined rules

Data Quality Rules are key facilitators in maintaining your data quality, doing this by assisting the user in entering master data in the system and reducing the opportunity for human-error. There are two primary facets of Data Quality Rules. Validation offers rule-based checking of the data manually entered by a user in the system. If the data does not meet these checks, the user is notified accordingly. Derivation defines the rules which would automatically default the value of the data attribute either unconditionally or based on certain conditions. This helps to increase the quality of master data as most of the data could be defaulted based on pre-defined rules without manual entries. Number of fields requiring manual, error-prone updates is being decreased.

Observed Trends when Adopting Data Quality Management

Based on experience with our various clients that are looking to adopt Data Governance and Management tools, there are a few trends we observe:

- Data Governance tools are not always considered early in S/4HANA implementations. The result is realizing late that a tool is needed to ensure data of right quality exists in the system.

- Keeping the core clean is increasingly becoming a top priority for Customers. This includes reducing reliance on custom enhancements and leaning towards standardized and out-of-the-box options. This allows business users to manage things on their own when it comes to data quality rule definition and implementation.

- Having the right data quality is rooted in deep understanding your data. By analysing and discovering patterns of your existing data, you can obtain a better understanding of how this data is being created, what is looks like and where data quality can be improved. The ability to automate the analysis of patterns in your data and converting this into data quality rules helps to reduce business workload in determining rules.

SAP DQM addresses all of the above points, by providing a central, standardized and automated way to approach your data quality in S/4HANA implementations, even for latecomers.

Data Quality Management in SAP

Various innovations in the ERP landscape are now allowing organizations to move away from the traditional data quality management process, MDM DQM is an example of this.

MDG DQM is a single platform/central place which enables collaboration between business and IT to setup and monitor data quality, acting as a central repository for all master data quality rules defined across enterprise. It has a clear audit trail and transparency on who created, implemented, and approved the rules. Some of the features include:

- Data Quality Evaluation to measure and analyze the quality of existing master data based on defined rules.

- Data Quality Remediation to fix/correct the issues detected by DQ Evaluation either using single (correct record one by one) or robust mass processing capability of MDG.

- Centrally defined business rules (built using BRF+) can be used in Central Governance, Consolidation as well as Mass processing.

DQM features are delivered through Fiori apps. No separate components or installation is required, and it is included in the license of Master Data Governance.

DQM offers several new functionalities, among which rule mining and Data Quality Dashboards

- Rule Mining: Defining the data Quality Rules most of the times is a tricky and cumbersome task. Sometimes, the business does not have the proper documentation available on 'as-is' state of how the master data is being created. MDG's Data Quality Management (DQM) rule mining capabilities are based on Machine Learning technology which has been embedded within the S/4HANA system. By taking advantage of this, SMEs can better find patterns within existing master data by looking at the available combination of attributes and values. These patterns can be then analyzed and converted into new data quality rules which can also serve as a basis to fine-tune any existing rules (if already defined). The implementation and progress of these rules can now be tracked meticulously through various statuses.

- Data Quality Dashboards: It is possible to integrate DQM with SAP Analytics Cloud to fulfil organization's analytics needs. Data Quality Dashboards are delivered as part of the 2022 release. The dashboards enable monitoring of Data Quality Score by different category and dimensions. Rules can be grouped under different dimensions such as Completeness, Correctness, Uniqueness etc. These dimensions and desired score such as Critical, Warning, Target etc. can be assigned. Based on the weighting defined, data quality score is then calculated and produced in evaluation results.

The real game-changer lies in how Data Quality Rules are now being handled. In the latest SAP Master Data Governance (MDG) release, Data Quality Rules are introduced, refined, and overseen by dedicated business Subject Matter Experts (SMEs). This centralization brings a significant boost in transparency and facilitates easy access to these rules.

Conclusion

Effective data management strategies can help your business make **data-driven decisions**, be pro-active in the market and reduce operational bottlenecks. Considering data management early in your ERP transformation is important to ensure high data quality down the line. This includes considering Data Governance tools early, defining data rules that address your business needs and managing your data as centrally as possible.

Why Deloitte?

Deloitte has a long-lasting strategic partnership with SAP to develop an innovative suite of services aimed at facilitating digital transformation for businesses.
Within Deloitte, we have established a specialized Enterprise Data Management team entirely devoted to addressing various aspects of data, including data quality assessment, data governance, and overall data management. Our team comprises highly certified Subject Matter Experts (SMEs) with extensive experience serving diverse clients across various industries.

Deloitte has developed a repository of best practices and insights into how different clients have tackled their unique data quality needs.

Our collaboration with SAP extends beyond the client realm, as we actively influence the SAP product team to introduce new innovations and enhance existing products based on our experiences and use cases provided by our customers. This partnership allows us to continually drive forward the capabilities of SAP's offerings to meet evolving business demands effectively.