Data Excellence Model

Short Description and Basic Terminology of the Reference Model for Managing Data Assets

Dr. Tobias Pentek, Prof. Dr. Christine Legner

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"Data Excellence Model: Reference Model for Managing Data Assets")

CDQ AG | Lukasstrasse 4 | CH-9008 St. Gallen | info@cdq.ch | www.cqd.ch

1. Introduction

The digital transformation of businesses has brought a fundamental change in many industries. Companies increasingly consider data a business critical and competition relevant asset enabling new products and services, as well as data-driven strategies.

Managing data as a strategic asset is a challenge, as it requires from companies to revise established data management approaches and concepts in order to be more effective in gaining value from data. Data management itself is required to broaden its scope in order to cover not just master data, but analytical data and other data types as well, while extending the original focus on data quality to additional aspects, such as data compliance, data security and privacy, or data risk.

In a joint effort, comprising more than 15 European companies as well as researchers from three European universities, the Competence Center Corporate Data Quality (CC CDQ) has developed a reference model for data management in the digital economy: the Data Excellence Model (DXM). It offers support and guidance for practitioners in the implementation of data management by defining major design areas, while at the same time supporting the transformation into a digital and data-driven company.

2. Purpose of the Model

As a reference model, the Data Excellence Model (DXM) aims at answering typical questions related to data management like:

- How to start? Where to focus on?
- How mature are we, and where do we need to improve?
- Where do we stand compared to others?
- What are good practices?
- Which proven methods and concepts should we use?

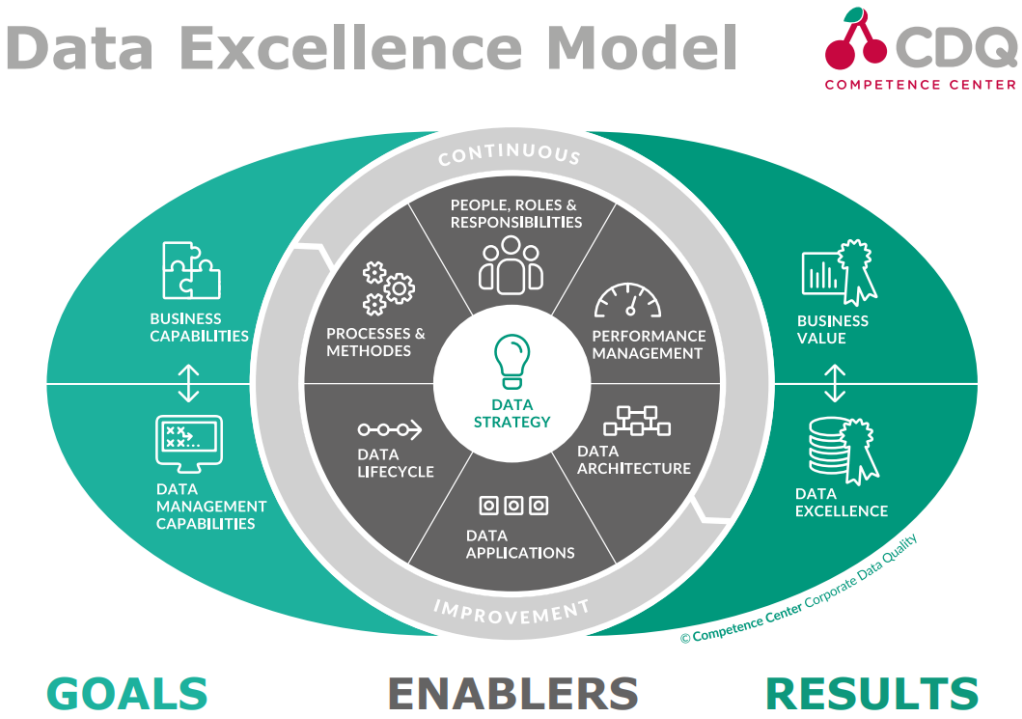
In answering these questions, one of the challenges is to align stake-holders from diverse backgrounds, find a common understanding and to agree on a way forward. This is the motivation for using a reference models, as generic blueprint, in a data management initiative.

The DXM defines the main building blocks (so-called design areas) for excellence in data management.

3. Structure of the Model

Given the understanding of data as a strategic asset, the structure of the DXM builds on the principles of excellence management and the logic of continuous improvement cycles. The DXM specifies 12 building blocks (so-called design areas) for excellence in data management across three categories: Goals, Enablers, and Results. These categories are interlinked by a continuous improvement cycle:

- **Goals** break down the overall purpose of excellent data management through the interplay of Business Capabilities and Data Capabilities. Together these capabilities are explicated in the form of a Data Strategy.
- **Enablers** outline the required data management capabilities to achieve the Goals:
  - People, Roles and Responsibilities;
  - Processes and Methods;
  - Data Lifecycle;
  - Data Applications;
  - Data Architecture; and
  - Performance Management.
- **Results** indicate to what extent the Goals have been achieved in terms of two quantifiable aspects: Data Excellence and Business Value.
- **Continuous Improvement** allows adjustment of both Goals and Enablers, ensuring the dynamic nature of the reference model.



4. Design Areas

4.1. Goals

By first taking a look at and understanding the business capabilities required and then defining and developing appropriate data management capabilities, data managers can align their activities with business.

Business capabilities are sets of skills, routines, and resources a company needs to have in order to achieve business objectives. They describe what a company does (or should do) at its core, rather than why or how it does things.

Data management capabilities are sets of skills, routines, and resources a company needs to have in order to support business capabilities through data management. Typical data management capabilities refer to, for example, data ingestion, data transformation and harmonization, data processing, data provision, data modeling, and data access.

Data strategy defines the scope and objectives of data management and specifies the roadmap for providing the data management capabilities required.

4.2. Enablers

Enablers define the design areas of data management which are to be considered for providing the data management capabilities required.

People, roles and responsibilities defines the skills and organization to ensure effective data management and consistent use of data across the entire organization.

Processes and methods defines procedures and standards for managing and using data properly and consistently.

Data lifecycle defines data objects and documents, and reviews data sources, operational data activities (i.e., ranging from data acquisition and creation to data archiving), data consumers, and data use contexts.

Data applications defines the software components supporting data management activities.

Data architecture defines the conceptual data model, specifies which data is stored in which application, and describes how data flows between applications.

Performance management defines the measures to monitor and control the performance (i.e., progress and outcome) of data management with the help of a key performance indicator system.

4.3. Results

The results of data management are twofold: first, and most obviously, data management has a direct impact on the data itself, defined as "data excellence" in the reference model; second, data management adds value to business, defined as "business value" in the reference model.

Data excellence refers to the impact of data management on the data itself, first and foremost with regard to data quality (defined as "fitness for purpose"), but also with regard to additional data related aspects, such as data compliance, data security and privacy, or data risk.

Business value refers to the impact of data management on business with regard to financials, business processes, customers, and organizational growth.

5. About the Competence Center CDQ

The Competence Center Corporate Data Quality (CC CDQ) is a research consortium and expert community in the field of data management. CC CDQ's mission is to support companies in managing data as an asset by developing and transferring innovative approaches into everyday business practice. Since 2006, the CC CDQ activities comprise three pillars:

- **Networking** with data management experts in the CC CDQ community through workshops and informal exchanges.
- **Research and co-innovation** to develop innovative, practice proven solutions and approaches for enterprise-wide data management.
- **Knowledge sharing and good practices** in the CC CDQ Knowledge Base containing use cases and company presentations, concepts, methods and tools, research papers and working reports.

The CC CDQ bridges the gap between theory and practice by bringing together data management experts from companies and academia:

- professionals from more than 15 renowned companies that consider data management critical for the success of their businesses
- researchers come from leading academic institutions, such as the University of Lausanne and the University of St. Gallen.

Partner Companies of the CC CDQ

Current and former member companies of the CC CDQ

6. Usage of the Data Excellence Model

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