Chapter 10
Quality Management of Corporate Data Assets

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ABSTRACT

Corporate data assets such as customer, material, and supplier master data are critical when it comes to fulfilling business requirements such as compliance to regulations, integrated customer management and global business process integration. Surprisingly, companies do not treat corporate data as an asset, but rather focus on reactive quality management measures only. As a response to that, the chapter reports on the design of a reference model for Corporate Data Quality Management (CDQM). Following the principles of Design Science Research (DSR), the design process involved professionals of fourteen corporations headquartered in Germany and Switzerland. The reference model consists of six design areas which altogether comprise fifteen goals and 43 related practices. It supports practitioners during the establishment and optimization of their CDQM initiatives.

INTRODUCTION

Motivation

Companies tend to refer to their corporate data (e.g. customer, supplier, and material master data) as a “true asset” for business. However, in the majority of cases, corporate data are not treated as such. This is particularly surprising consider-

ing the impact high-quality corporate data has on business:

- Telecommunication companies use multiple sales channels for their products and services, e.g. the Internet, resellers, and shops. Despite this variety of sources of customer data, the company has to ensure availability of consistent, accurate, complete, and timely customer data (e.g. addresses, contracts, bills etc.) when a call center agent receives an inbound call.
• Similar challenges regarding customer, contract and benefit data can be found in the insurance industry (Pula, Stone, & Foss, 2003). In addition to that, the European Commission has sharpened the requirements for management of market, financial and core business data through by issuing a new directive (Solvency II) (Salchegger & Dewor, 2008).

• In the automotive industry, companies need to conduct global spend analysis in order to manage total company purchasing volume across different divisions and locations. Prerequisites for that are consistent use of supplier identification numbers and good availability of all hierarchy relations between a supplier and its subsidiaries (Gordon, 2005; Otto & Hinderer, 2009).

In contrast to the high relevance of corporate data for both efficient and effective business operations, the typical strategy to manage corporate data is “fire fighting”, i.e. companies usually follow a purely reactive approach. Research to shed light on this issue seems to be in its infancy, since only partial explanations for this phenomenon are given. Among those are:

• Quality management of corporate data is always delegated to the information and communication technology (ICT) department (White, Radcliffe, & Eschinger, 2008).

• Tools and methodologies to measure and control performance of corporate data quality management do not exist or are not used (White et al., 2008).

• Companies neglect the issue’s complexity and demand “quick wins” without taking into consideration the medium- and long-term perspective (Karel, 2007).

Research Objective and Chapter Structure

The chapter takes up on current shortcomings in quality management of corporate data assets. It aims at the development of a Reference Model for Corporate Data Quality Management (CDQM) and at the illustration of its use in a practical context.

The chapter takes up existing work in the field of data quality management and contributes to the scientific body of knowledge by expanding state-of-the-art concepts with experiences from the practitioner community and by applying business engineering as a foundation to establish CDQM within an organization. Practitioners can benefit from the CDQM Reference Model when using it as guidance for their CDQM efforts.

BACKGROUND

Data and Related Terms

Pieces of data describe characteristics of objects and processes from the real world (Boisot & Canals, 2004; Spiegler, 2000). In this sense, data is free of context. When data is used within a context or when data is processed, it turns into information (Van den Hoven, 1999).

Data can be divided into master data, transactional data, and inventory data. Master data refers to the characteristics of core business entities within an organization (White, Newman, Logan, & Radcliffe, 2006). Typical master data classes are material and product master data, supplier and customer master data, and master data regarding employees, assets, and organizational units (Mertens, 2000). Transactional data represents input and output of business processes. It comprises purchase orders, invoices, shipping notes etc., and does not exist without a reference to master data. Inventory data refers to stock and account levels, e.g. to bank account balances or reserved stock.