: How does MDM impact data-driven DSS?

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Master data management (MDM) is a complex process made up of a number of interrelated tasks. In general, MDM involves defining, maintaining and sharing consistent definitions of business entities and their attributes across all organization databases. MDM involves creating a single, comprehensive view of data names, definitions and characteristics. Master data management projects must be carefully planned and executed in terms of people, processes and technologies. An ongoing MDM process can improve the quality of data, create a consistent classification of data elements, and improve the identification of data that must be captured. A successful MDM project with ongoing maintenance of master data can improve data-driven DSS in an organization. Organizational MDM processes and practices can help or hinder the use of data-driven DSSs.

Master data management is more than a set of processes and computerized tools that help managers and IT staff define and manage data elements of an organization. MDM is a philosophy and way of organizing data. Managers must realize MDM is the strategies, processes, technologies and people that create and maintain a single, coherent, complete view of all master data that enables business processes. In general, MDM is used very broadly to describe specific processes to improve a major determinant of data quality in an organization.

In an MDM process, IT staff define and maintain consistent definitions of business entities, and share them with developers across multiple IT systems (see www.tdwi.org/Publications/WhatWorks/display.aspx). Effective MDM means current, consistent data across all organization information systems on subject attributes like product product, employee salaries and customer billing addresses.

Ideally MDM provides a single reference point for reliable and authoritative master data. An MDM process should serve all business applications and processes. Metadata is not primarily concerned with integration and synchronization of the data, though metadata does support that objective, Wbut master data integration is the primary objective of master data management.

According to SearchDataManagement.com, master data management (MDM) is a comprehensive method of enabling an enterprise to link all of its critical data to one file, called a master file, that provides a common point of reference. When properly done, MDM streamlines data sharing among personnel and departments. In addition, MDM can facilitate computing in multiple system architectures, platforms and applications.

A term related to MDM, data dictionary, refers to a set of tables about the data in an organizational database and the structure of the database. A data dictionary is a catalog of all data elements that contains field names, structures, and information about their usage. It is a central location for metadata. Normally, data dictionaries are designed to store a limited set of available metadata, concentrating on the information relating to the data elements, databases, files and programs of implemented systems. A data dictionary supports MDM.

Metadata is also important to MDM. It is semantic information associated with a given subject and attribute in a database. In general, metadata includes business definitions of the data and clear, accurate descriptions of data types, potential values, original source system, data formats, and other characteristics. Metadata defines and describes business data. Examples of metadata include data element descriptions, data element names, length, valid values, and the description of a data element. Metadata is stored in a data dictionary and repository.

According to Hoffer et al. (2008), there are three popular architectures for master data management: an identity register, an integration hub, and a persistent consolidated record. With an identity register applications check for the authoritative source of data. With an integration hub, data changes are broadcast to all subscribing databases. A persistent consolidated record approach creates an integrated master data record. Any of these approaches can support data-driven DSS.

IT staff manage an organization's data resource. This task, called data management, refers to administrative processes and systems used to acquire, validate, and store data. Master data management refers to a narrow, more targeted process that is part of data management. Creating an integrated database may involve merging data, removing duplicate data, standardizing field names and data domains across databases, cleansing, and other transformations of data. Improving an organization's data resource is an important ongoing task. MDM is part of the solution for improved data quality.

Master data management should provide a single point of reference for master data used by business intelligence and other data-driven decision support systems. These systems will benefit from improving master data for an organization.

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