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SPEAKING "DATA" PROPERLY

by Dan Rachlis

Data Mining, Data Analysis, Data Warehouse, Data Mart, Data Modeling, Data Requirements, Data Integration, Data Visualization, Data Cleansing, Data Transformation, Relational Database, Business Intelligence, Data Management, Data Architecture, Data Privacy, Data Security, Data Access, Data Integrity, Metadata, Data Backup, Disaster Recovery, Business Continuity Planning, Data Governance, Data Asset Customer Relationship Management (CRM) Software, Records Management, Data Structure, Data Movement

Have you ever used any of the above terms? Chances are that you have and that you may be using them incorrectly. In an era where technology is continually advancing, electronic data can be found everywhere. In the health care actuarial industry especially, data and understanding how to manage the constant flow of information is vital to an organization's operational and financial viability. Actuaries need to be sure the analysis and opinions they provide are accurate, asking for the wrong data or not understanding what data to ask for can have a significant impact.

This article is the second in a four-part series about eliminating the confusion with using data terminology. In part one, we discussed data governance, the formal management of data assets with respect to availability, usability, integrity, and security throughout the enterprise. Data governance ensures that data can be trusted and that people can be made accountable for any adverse event that happens because of low data quality. It assigns responsibilities to fix

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and prevent issues with data so that an enterprise can become more efficient. Part two will discuss data analysis and database management.

Data Architecture, Analysis and Design

Data Analysis is a process in which raw data is organized and reviewed so that useful information can be extracted. The main goal of data analysis is to highlight information to draw conclusions and support decision making. Data analysis has multiple facets and approaches that encompass many techniques in different business and consulting environments. A **data structure** is a specialized format for storing and organizing data in a computer so that it can be used efficiently in data analysis. **Data architecture** describes the data structures used by a business and/or its applications. These are descriptions of data in storage and data in motion including descriptions of data stores, data groups and data items and mappings of those data artifacts to data qualities, applications and locations. Data is commonly in tables, which are a collection of meaningful data elements. A **data dictionary** is a centralized repository of information about data such as the source table, meaning or description, relationships to other data, origin, usage, and format. A **database** is an organized collection of data in the form of tables for one or more uses. **Data modeling** is the formalization and documentation of a business process. A data model defines, analyzes and diagrams data requirements and relationships needed to support the business processes of an organization. **Data visualization** is the graphical representation of data or information which has been abstracted in some schematic form, with the goal of providing the viewer with a qualitative understanding of the information contents. **Data integration** involves combining data residing in different sources and providing users with a unified view of this data. **Data cleansing** or **data scrubbing** is the term used to identify and correct (or remove) corrupt or inaccurate information from a table. Data cleansing differs from **data validation**. The term data validation refers to a process during which data is subject to a comparison with a set of acceptance criteria. Data validation guarantees to your application that every data value is correct and accurate. **Data integrity** is data that has a complete or whole structure. All characteristics of the data including business rules, the accuracy and consistency of the data, and the exact duplication of data must be correct for data to be complete. Data that has integrity is identically maintained during any operation (such as transfer, storage or retrieval). Put simply in business terms, data integrity is the assurance that data is consistent, certified and can be reconciled.

Future articles in this series will focus on data warehousing, business intelligence, and records management.

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