



Why is Data Quality important for Insurers?

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Audit.Tax.Consulting.Corporate Finance.



Agenda

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What is Data Quality?

2

How can we measure and maintain Data Quality?

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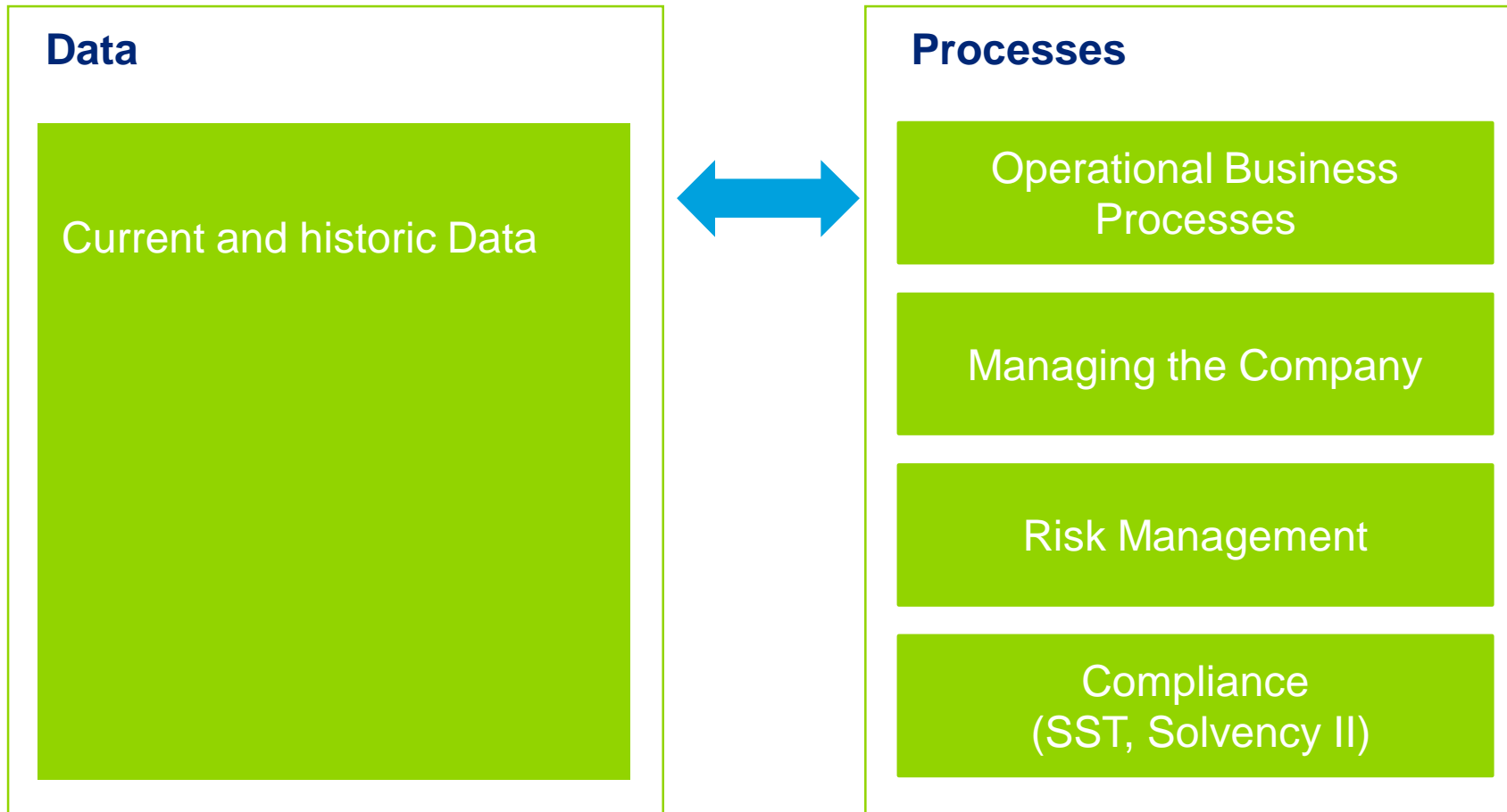
How can we approach Data Quality?

4

Why is Data Quality important for Insurers?

What is Data Quality?
Why is it important?

Data and Processes



Data Quality and Regulatory Requirements

Basel II and Solvency II

Basel II

„Accuracy and completeness of position data“

“The verification of the consistency, timeliness and reliability of data sources (...)“^[1]

Schweizerischer Solvenztest:

„Die Dokumentation äussert sich zur Art und Weise, wie die Datenqualität und insbesondere die Qualität der Information (...) gesichert wird.“^[2]

Solvency II

„Data quality management should comprise the following phases:

- a) Definition of the data;
- b) Assessment of the quality data;
- c) Resolution of the problems identified;
- d) Monitoring data quality.“^[3]

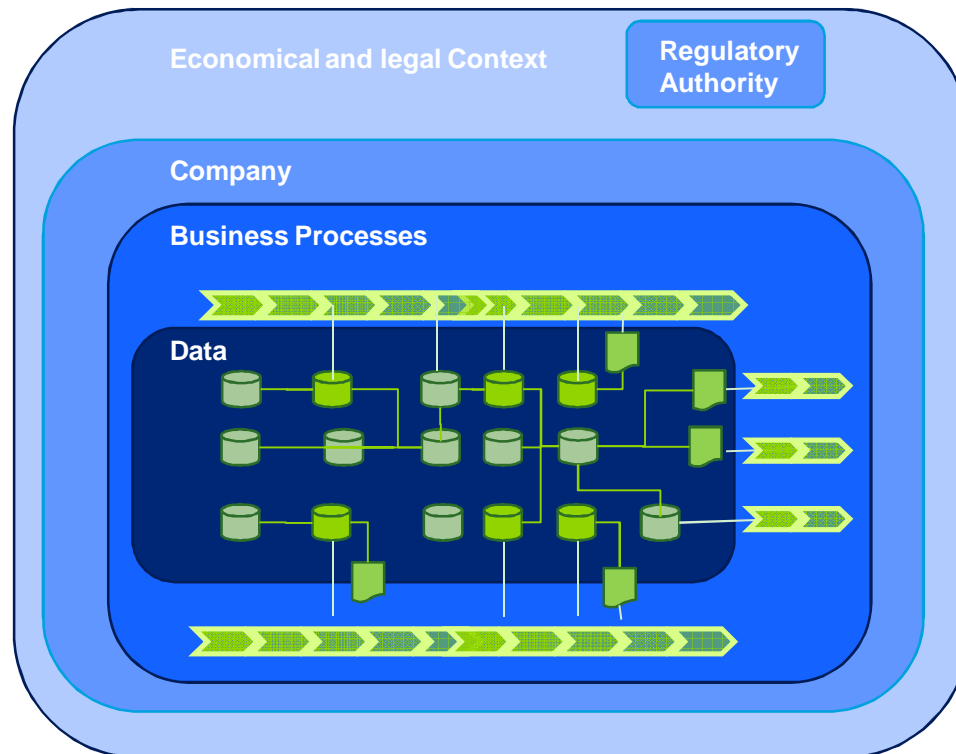
^[1] <http://www.bis.org/publ/bcbs118.pdf>, p.35, bzw. <http://www.bis.org/publ/bcbs189.pdf>, p. 49

^[2] <http://www.finma.ch/d/regulierung/Documents/finma-rs-2008-44.pdf>, p.21

^[3] http://eiopa.europa.eu/fileadmin/tx_dam/files/consultations/consultationpapers/CP43/CEIOPS-L2-Final-Advice-on-TP-Standard-for-data-quality.pdf, p. 20

What is Data Quality?

Data quality is all about measuring data and validating so it is fit for business purpose



Data sits at the heart of every organization:

- operations
- analysis
- decision-making
- reporting and planning

It is therefore vital that data is **fit-for-purpose for its intended use.**

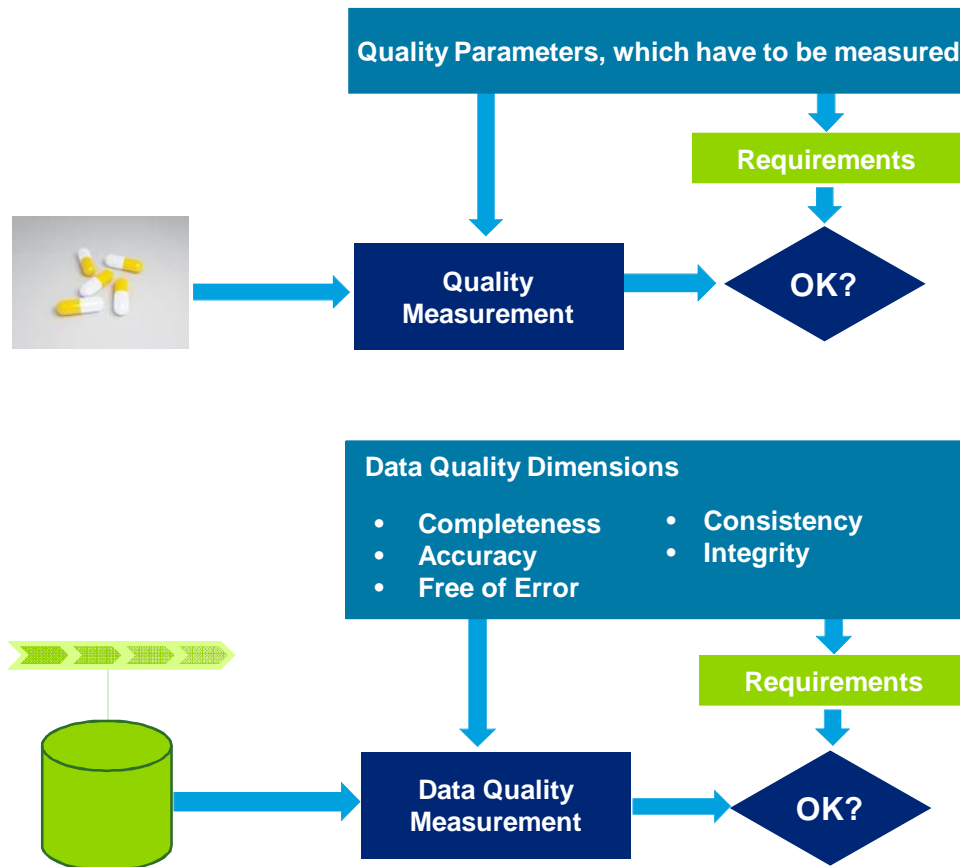
This is what we mean when discussing data quality.

- **Fit for Regulatory Reporting**
- **Fit for Financial Reporting (IFRS 4 Phase II)**
- **Fit for Managing the Company**
- **Fit for Marketing Campaigns**
- **Fit for Solvency II**

Data Quality Concepts

What is Data Quality? What is Data Quality Measurement?

Data Quality is the degree to which information consistently meets the requirements and expectations of all knowledge workers who require it to perform their processes (Larry English).



Quality Measurement of a product

Measuring data quality is a similar process to measuring the quality of a product. There are plans, what has to be measured, how it has to be measured and each product has a quality specification.

Data Quality Measurement

In a data quality measurement some or all dimensions are measured for a dedicated data source. The results are compared with the written requirements.

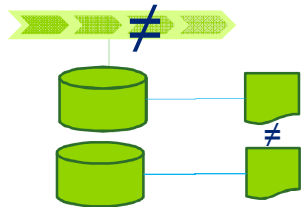
Data Quality Dimension

- **Completeness** – Is all the expected data present?
- **Accuracy** – Is the data correct?
- **Free of Error** – Is the data within expected ranges of values?
- **Consistency** – Does the data agree with other values within the data set?
- **Integrity** – Is the data in a coherent and logical structure?

Effects of Data Quality on the Business

Why is Data Quality important for Insurances?

1. Because poor data quality is expensive: 10% of revenue

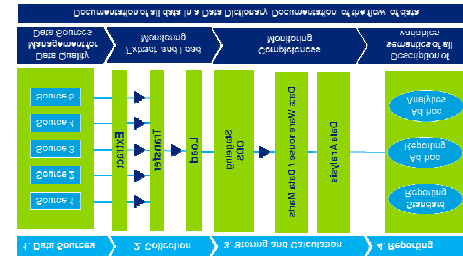


Inaccurate, incomplete reporting

- Wrong decisions or actions
- Redundant data handling costs for replication and synchronization

- Process failure: Rework, Restart
- Cost based on lower reputation

2. Because the management needs valid, complete and consistent information



- A Data Warehouse needs accurate and complete data, because important decisions are based on that data.
- Stress tests need accurate and complete data.

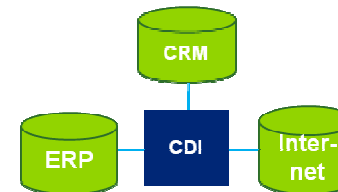
3. Because controlled data quality is mandatory for compliance



Higher regulatory compliance attestation demand needs better data quality and documentation

- FINMA SST Swiss Solvency Test Solvency II
- Basel III
- FATCA
- Need for accurate ad-hoc evaluation for FINMA

4. Because a good data quality helps to increase the customer value



Customer Data Integration and Data Quality

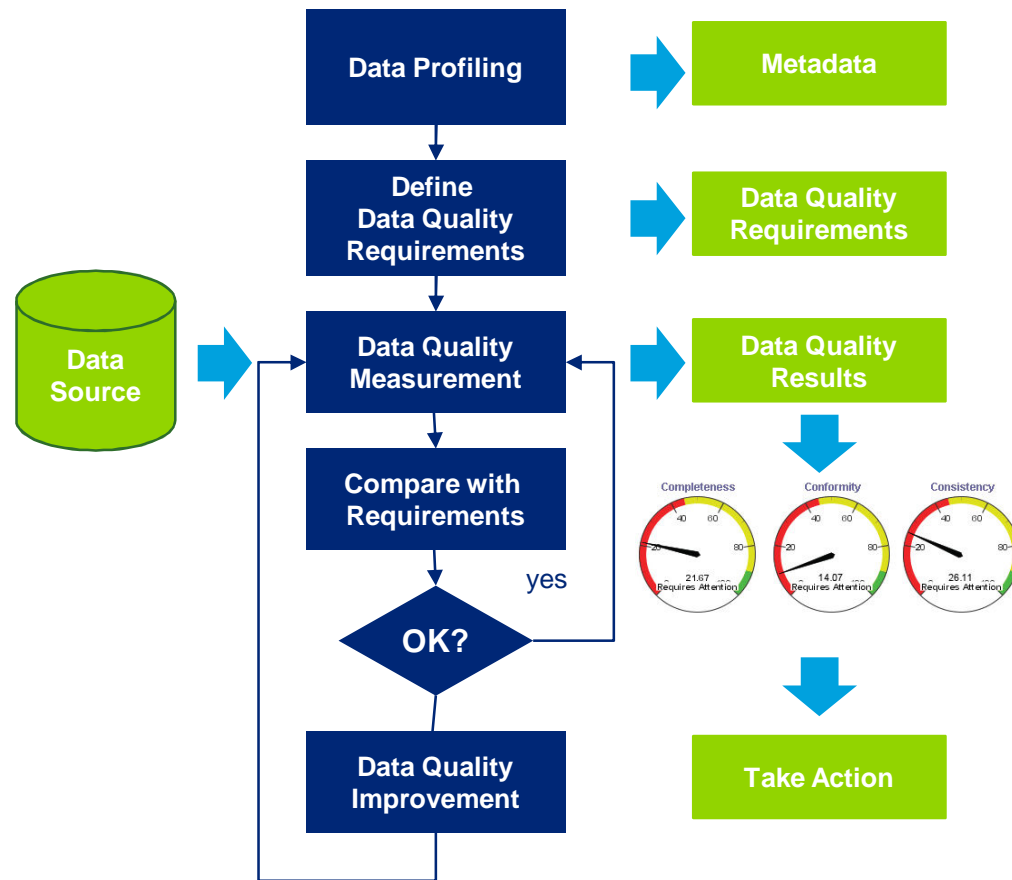
- More customer
- Better up and cross selling
- Better campaign management

How can we measure and maintain
Data Quality?

Data Quality Processes

Data Quality Management

Data Quality Management leads the organization to improve business performance and process effectiveness by implementing processes to measure, improve processes to control data quality, and by defining processes, guidelines, policies for information quality improvement.



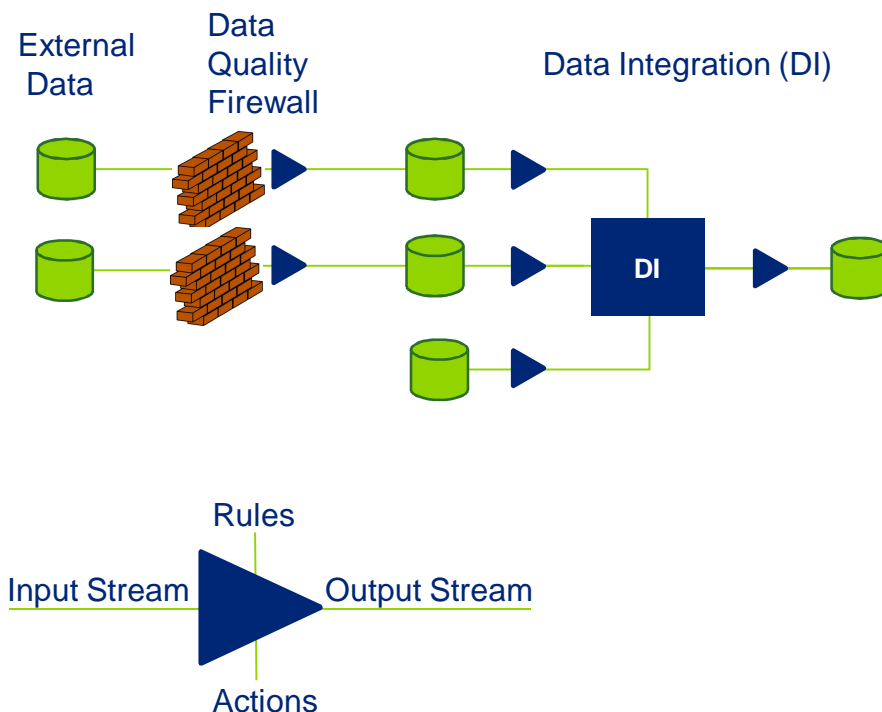
Data Quality Management of a Data Source

1. **Profile Data.** Show what is really in the data source. No check if right or wrong. Create **Metadada**.
2. Define the **data quality requirements** according to intended use.
3. Define a set of **rules**, which check the data source.
4. **Measure** data source with the set of rules.
5. Aggregate the results. Create a **dashboard** with the aggregated results.
6. **Compare** with the reference values.
7. **Root Cause Analysis.** Why is data quality bad? How can it be improved?
8. Take **Action** to improve data quality

Data Quality Controls

Data Quality Controls in an Information Chain

Data Quality Controls or Monitors are like sensors, which check the incoming information packages against various constraints. This can be real-time information or daily packages of data, e.g. data warehouse feeds. The constraints can be static or dynamic by statistical analysis of the actual data package and/or using historic data.



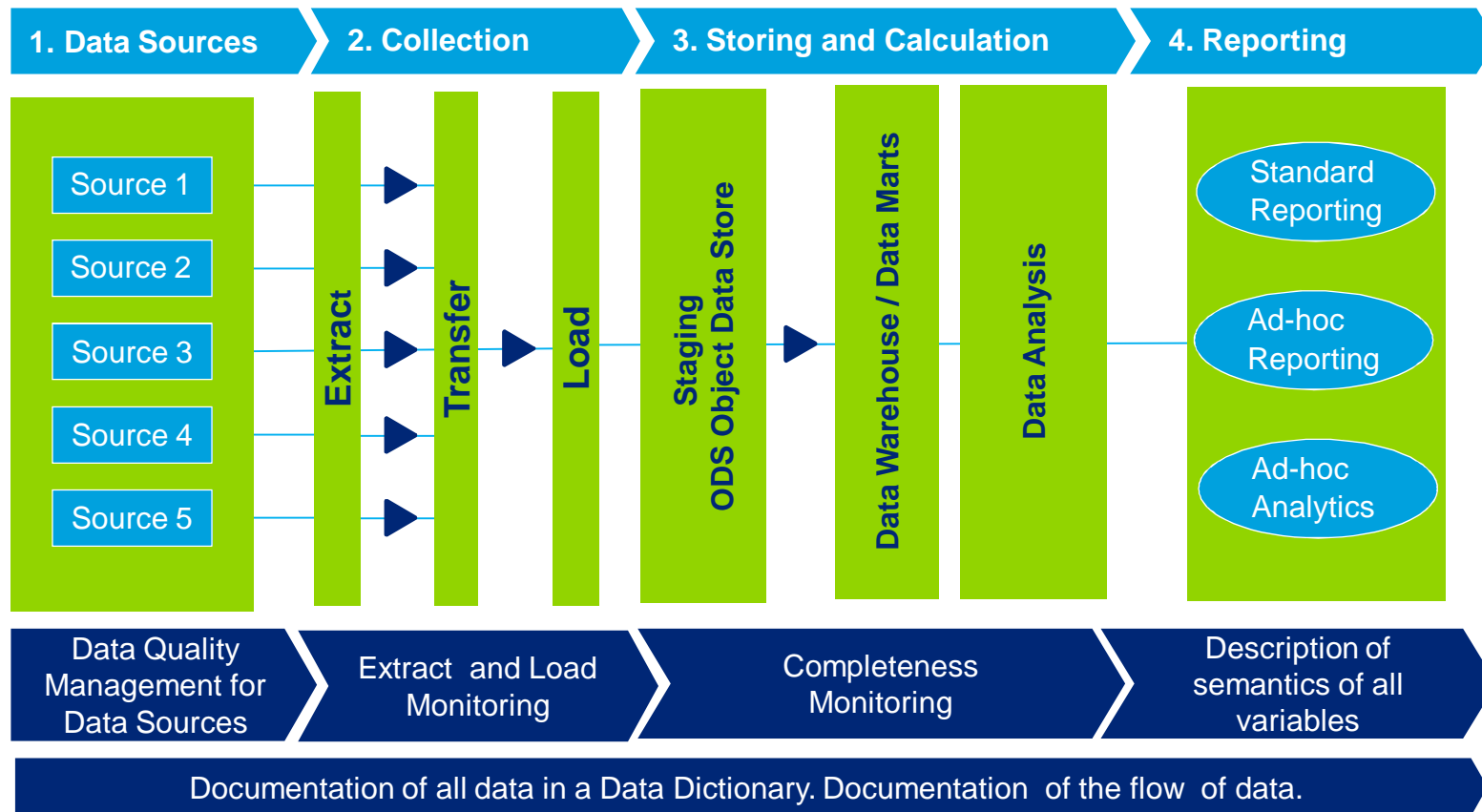
Data Quality Controls

1. Define the data **quality requirements** for the information package.
2. Create the **rules** according to the requirements. The rules check usually **accuracy** or **completeness**. The rules may be dynamic and include advanced statistical analysis of current and historic data.
3. There is a **set of actions**, which may be executed, when a rule fires. Examples of actions are:
 - Write a log message
 - Send a message to the data
 - Don't transfer any data
 - Send record to quarantine for manual analysis,
 - Correct data with an audit trail
4. A data quality monitors for external data is also called **data quality firewall**.

Data Quality and Business Intelligence

Data Quality Management for a Data Warehouse

Data Quality Management for a Data Warehouse may contain many data quality features. First the data quality should be checked in the source data. Second, various monitors check the data in the data warehouse creation process. The business user needs a definition of all accessible variables in the data warehouse. Finally all variables need to be documented including the flow of data / lineage.



How can we approach Data Quality?

How to approach Data Quality

Data Risk Management, Data Governance, Data Management Technology

Deloitte's **approach to Data Management** has three dimensions that uniquely combine to deliver **business value**. It is based on many years experience of assuring and advising technology implementations and the recognition that successful data management is much more than simply integrating technology.

Data Risk Management

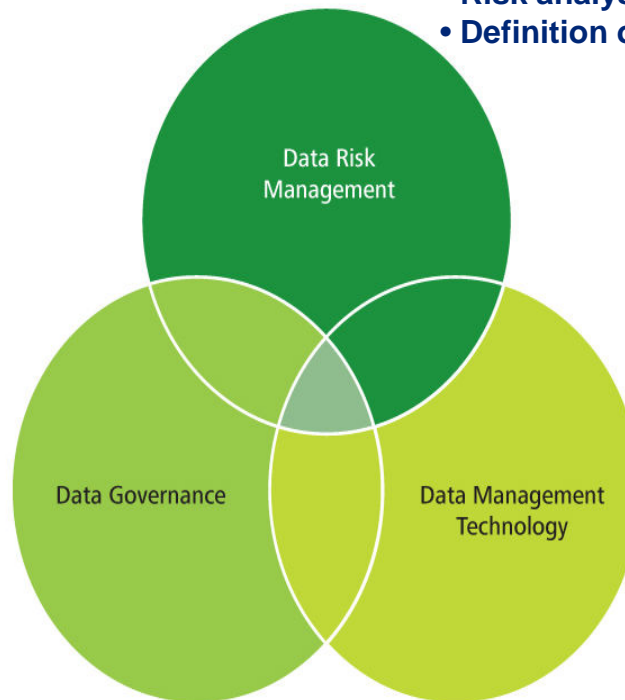
Providing data assurance in the form of investigations, reconciliations, reviews and assessments.

- Risk analysis of data
- Define **data risk classes**
- Documentation of **Information Flow**
- **Risk analysis of manual processes**
- **Definition of new controls**

Data Governance

Define policies, roles and responsibilities for the necessary processes.

- Create **Data Policies**
- Define **Data Owner** Role
- Define **Data Stewards** Role
- Define **Government board**
- Define **Data Standards**



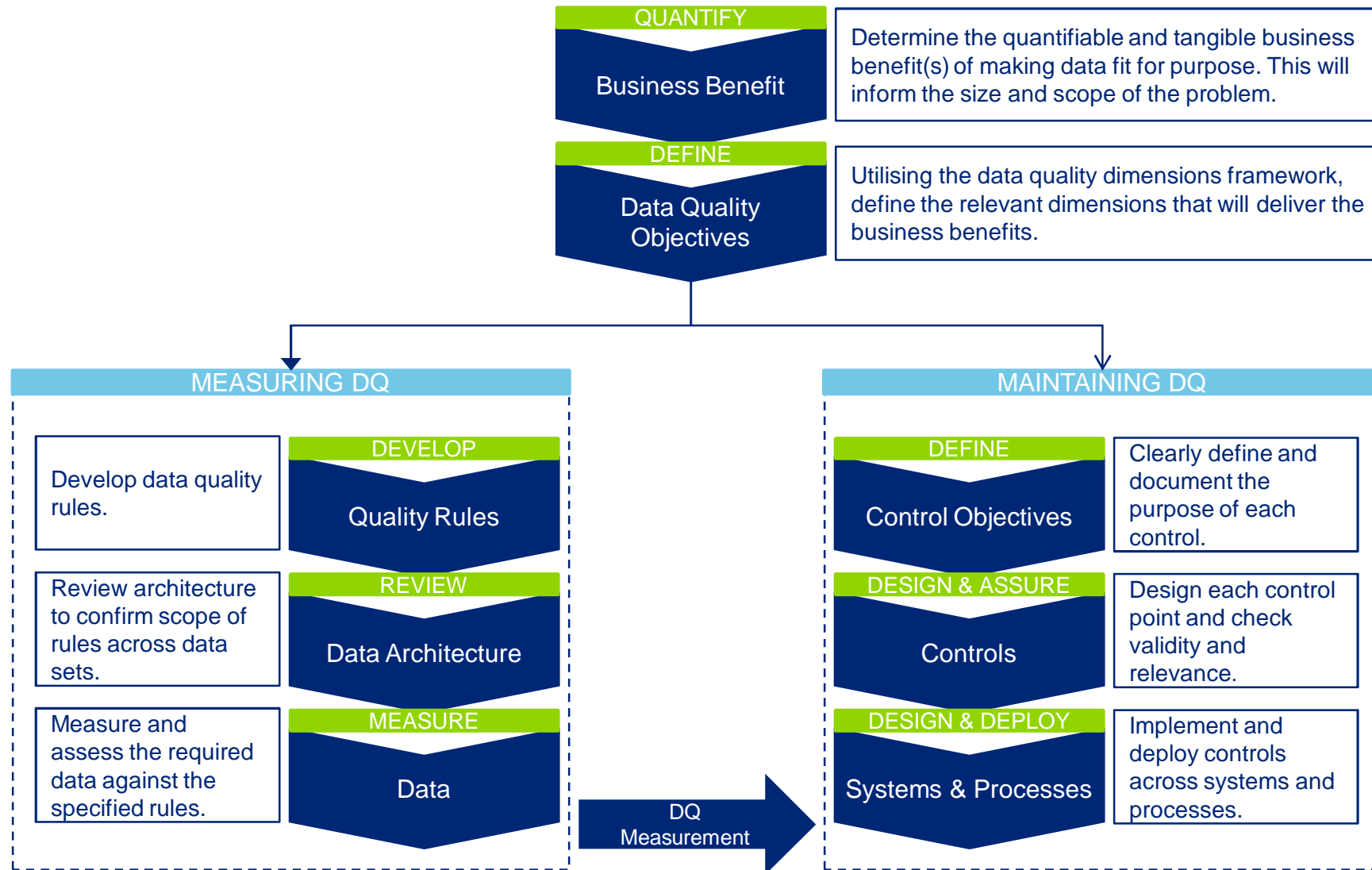
Data Management Technology

Selecting, implementing, integrating and applying the technology required to ensure effective Data Management.

- **Data Profiling Tools**
- **Data Quality Assessment Tools**
- Data Integration
- Data Cleansing
- **Data Dictionary**
- **Glossary for Business Terms**

Data Quality Approach

Measuring and Maintaining Data Quality

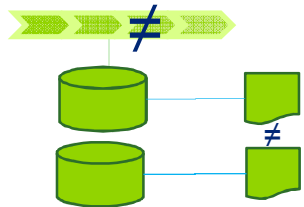


Relevance of Data Quality for Insurance Companies

Why is Data Quality important for Insurers?

Where is the Benefit?

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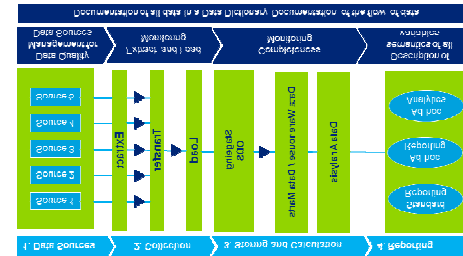


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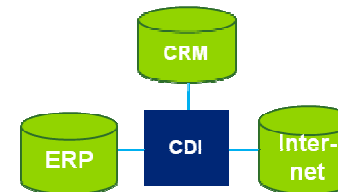
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Contact

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