Data Validation as a Main Function of Business Intelligence

presented by

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3 Levels of BI

- Validation of input data
- Transformation
- Making output data available

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Business Intelligence (BI) is a non-exclusive collection of methods that are used as a transformation process to generate information out of data.

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Requirements of BI

- Minimum of information quality
- Benefit by using BI
- We need to know what we know
Structure of BI

Figure 1: Abstraction of the Transformation Process Inside a BI-System

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Problems of Raw Data

- Typographical errors
- Transposed digits
- Multiple data capture / redundancy
- Incomplete data sets
- Missing data sets
Data Validation

- **Range of security**
- **Check wether**
  - the amount of data sets is complete
  - each data set is complete
  - there are abnormalities
  - there are trends (e.g. a accumulation of serious misentries)
  - there are misentry / key errors
  - there are general data errors
  - the data is plausible / makes sense

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Operational BI

- BI is not limited to strategic analysis
- Usable as a tool for TQM
- Detects problems before they become a problem
Quality Control Chart (QCC)

- Preventing errors
- Warning threshold
- Alarm threshold
- Finding trends
Identifying Data Problems

Figure 2: Operational BI in a Clinical BI-System (instantOLAP) [Len2012]

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The Quality of output of any data transformation process depends directly on the quality of input data.
Conclusion

- Making decisions requires data or information on a sufficient level of quality
- It is necessary to validate raw data before computing any results
- Data validation can be the main intention of a transformation process
- Validation might be a part of transformation
- Validation can be the transformation process
In any case, data validation is proved to be a main function of Business Intelligence.
Thank you for your attention!

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