

Data quality

Governance

What the organisation does and what it should become in the future

Management

How the organisation will reach those goals and aspirations

solutions

organizational

architectural

computational

defining and enforcing data constraints

Doing entity resolution effectively and efficiently

managing missing values and uncertain data

Data quality dimensions

Integrity

Meaningless

Accuracy

Erroneous

the closeness between a value v and value v' considered as the correct representation

Completeness

Missing

the sufficiency of data for the task at hand

Currency

Obsolete, out of date

How promptly data is updated

Volatility: frequency with which data vary in time

Timeliness: how current the data are for the task at hand

Representational consistency

inconsistent

Accessibility

unavailable

Uncertainty

reliability, trust

Recognize the problem

Data quality problem

Data acquisition

Data integration

Data utilization

Measure its cost

How many errors?

Data quality cost

Costs caused by low Data quality

Direct costs

verification costs

Re-entry costs

Compensation costs

Indirect costs

Costs based on lower reputation

Costs based on wrong Decisions or actions

Sunk investment costs

Costs of improving or assuring data quality

Prevention cost

training costs

monitoring costs

standard development and deployment cost

Detection costs

Analysis costs

reporting costs

Repair costs

Repair planning costs

Repair implementation costs

Basic steps for governance

Devise strategy for improvement

Short term

Define metrics and its relationship to business impact to identify which data to improve

Produce baseline

Use same metric to measure change from baseline

Sustain improvements through ongoing monitoring

long term

Establish process owner and management team

describe process qualitatively and understand requirements

Establish measurement system

Establish process control and conformance to requirements

Identify improvement opportunities

Select opportunities and set objectives

make and sustain improvements

Aim towards the governance maturity