Data quality issue

Definition

A data quality issue is a non-fulfilment of a requirement regarding data quality.

Notes

Generally, a data quality issue concerns an incorrect data value, but it can be applied to any other data quality dimensions, e.g., completeness and timeliness.

Attributes of a data quality issue are:

- Description of a data quality issues
- Classification of a data quality issues
- Impact, severity/urgency
- Assignment of the data quality issues to a person who will resolve the data quality issues
- What is changed, why en how in the resolution of a data quality issues
- Resolution time/Duration

Synonym(s)

- Data anomalies
- Data error
- Data quality incident
- Defect
- Error
- Nonconformity

Lifecycle

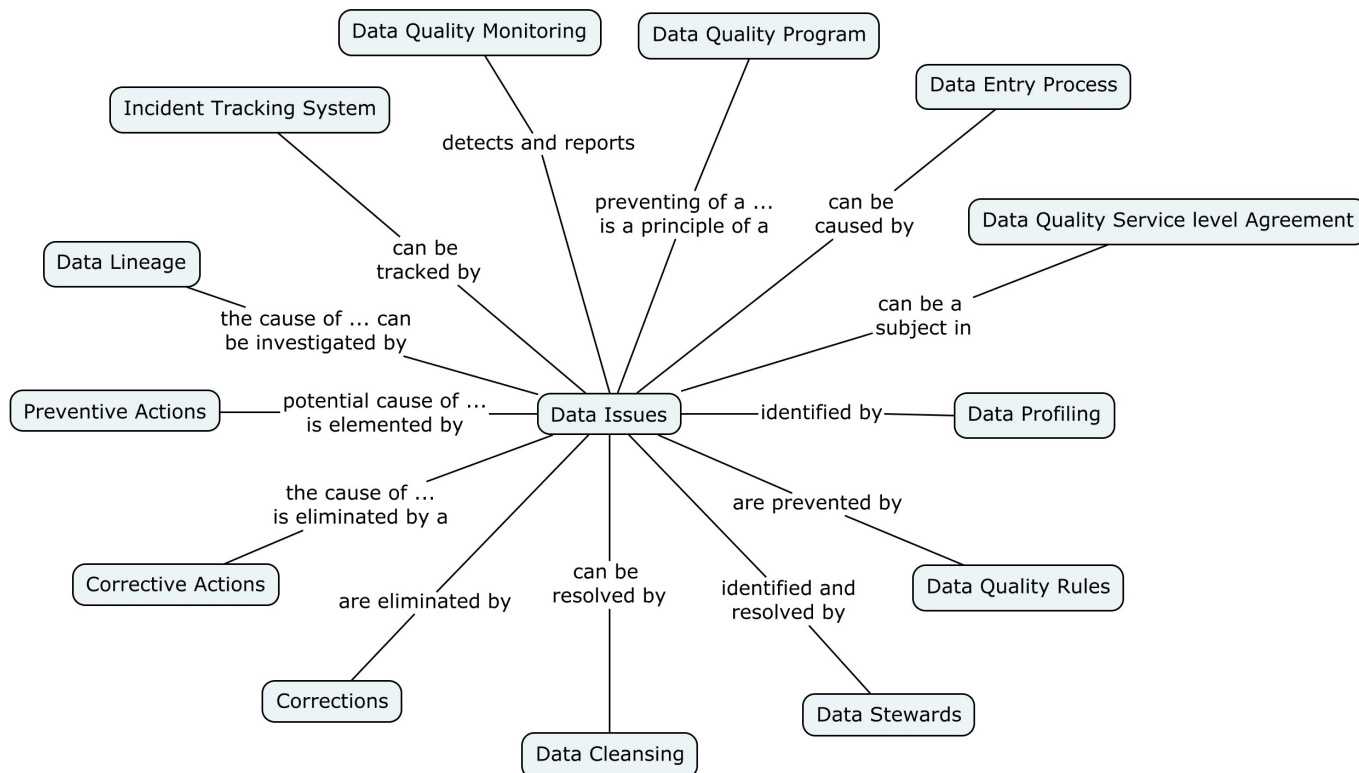| Phase	Activity
Plan	* To detect or identify data quality issues * To determine if similar data quality issues exist * To register data quality issues * To count the number of data quality issues * To categorize or classify data quality issues * To diagnose data quality issues('root cause analysis') * To formulate options for remediation of data quality issues. * To assess the business impact of data quality quality issues('severity') * To prioritize data quality issuesbased on business impact (by data owners and data stewards) * To eventually escalate data quality issues. See figure.

Do	* To eliminate or resolve a data quality issues('correction', 'remediation', 'scrubbing' or 'cleansing') * To eliminate the cause of a data quality issuesto prevent recurring ('corrective action') * To eliminate the cause of a potential data quality issues('preventive action') * To deal with the consequences of the data quality issues, e.g., to report data isquality issuessues to data users * To document actions taken.
Check	* To monitor the status of data quality issuesand their resolutions. * To review the effectiveness of corrective and preventive action.
Act	* To adapt corrective and preventive action.

Characteristics

Characteristic	Requirements
Severity	Data quality issuesare resolved in order of severity.

Relations

- Managing data quality issuesis part of a data quality management system.
- Preventing data quality issuesis one of the principles of a data quality program.
- Data quality issuescan, e.g., be caused by data entry processes or be caused by an incomplete data migration
- Data quality issuesmanagement is a subject in a data quality service level agreement.
- Data quality issuesare identified by data profiling or by applying data quality rules.
- Data quality issuesare identified and resolved by data stewards.
- Data quality issuescan be resolved by data cleansing.
- Data quality issuesare eliminated by corrections.
- Data quality issuesare prevented by corrective actions.
- Possible data quality issuesare prevented by preventive actions.
- The root cause of a data quality issues can be investigated by data lineage.
- The status of data quality issues can be tracked in an incident tracking system.
- Data quality issuesquality issues can be prevented by data quality rules.
- Data quality monitoring detects and reports data quality issues.

Data quality issues escalation path

The figure shows a possible escalation path of data quality issues.
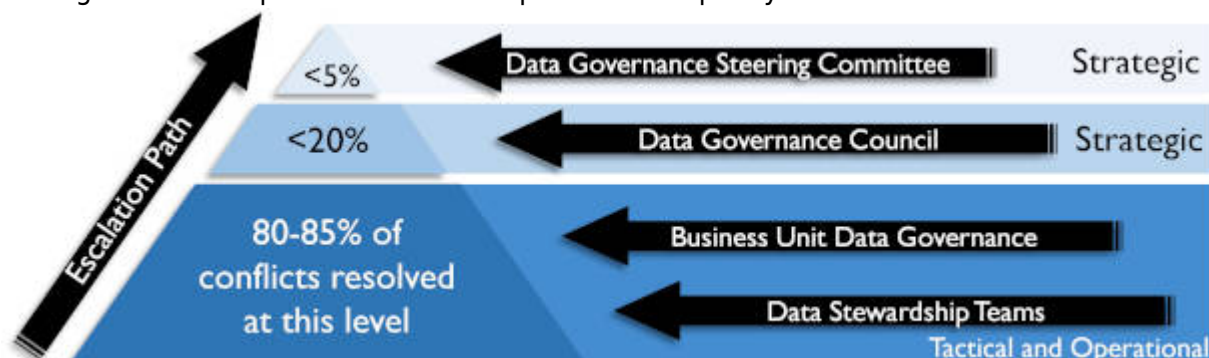

Figure 2: Data quality issues escalation path.

Story

A customer of the TradeAll trade company complained that he had been delivered an incorrect item. The sales department reported this incident in the Incident Tracking System, which was assigned to the Data Steward. The Data Steward then went to see how this could have happened. He found that the item number did not match the item description and suspected that this was due to a data entry error. Based on the item number, the products were taken from the warehouse.

He corrected the item number (Correction), but to prevent this kind of error, he took the measure that the entry of items was checked by a second person to prevent more incidents (Corrective Action). He also made sure to check for duplicate item numbers in the database (Corrective Action).. The customer was apologised for the error and the correct article was delivered as soon as possible.

References

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Last update: **2024/03/08 13:33**