Functional Practice Statements - Data Lifecycle Management

Level 1: Initial

1.1 The data lifecycle for a business process(es) is defined and applied.

The definition includes traceability from the creation or acquisition of source data through transformations to the destination target(s).

1.2 Data dependencies—both upstream and downstream from the initial creation or ingest—have been identified and mapped.

Mapping also includes identification of both consumers and producers of the data.

1.3 Stakeholders agree on the scope of data elements and authoritative data sources.

The organization should have defined scope and authoritative sources for at least one fundamental shared entity or data set important to the business (e.g., customer entity, transaction history, etc.).

Example Work Products
- Business process to data element mapping, specifying creates, reads, updates, and deletes (e.g., CRUD matrix)
- Consumer and producer matrix
- Data flow diagrams specified at the attribute level
- List of authoritative data sources and approved attributes for a data set

Level 2: Managed

2.1 A mechanism or process is established whereby the organization understands the relationship and requirements of data between sources and consumers of data.

Refer to the Data Requirements Definition for information about defining data requirements at all levels.

2.2. Business process to data mappings are defined, maintained, and periodically reviewed for compliance.

Examples of useful tools include a metadata repository, data modeling tool(s), and business process modeling tools, with their associated artifacts and models.

Refer to Metadata Management for more information to aid this practice.

2.3 A defined process for collaborative agreements with respect to shared data and its usage within business processes is followed.

2.4 Selection criteria are defined and applied to designate authoritative data sources.

2.5 The systems development lifecycle process requires reference to and adoption of approved shared data representations and obtaining data from authoritative sources.

Example Work Products
- Documentation of the data change management process
- Governance process for shared data assets and data sets
- Business process catalogs and maps to shared attributes
- Data source selection criteria
- Mapping between data producers and consumers
- Attribute level flow diagrams
- SDLC defined processes including mandatory reference to authoritative data sources as part of process to data mappings
- Business process modeling tool and artifacts
- Data modeling tool and artifacts
- Metadata repository
- Data attribute source mappings

Level 3: Defined

3.1 Data lifecycle management processes are defined and approved by stakeholders, and managed by data governance bodies and processes.

3.2 Change management processes addressing the entire data lifecycle are established and maintained.

For example, custodians (physical) and data stewards (logical) employ a standard evaluation and impact analysis process for data element changes, additions, deletions, and modifications. Corresponding changes are made to source-to-target mappings.

3.3 Project responsibilities for system development lifecycle activities include mapping data attributes to business processes, shared data sets, sources, and target data sets that are important to the organization.

3.4 Data flows and full data to process lifecycle maps for shared data are implemented for each major business process at the organizational level.

3.5 Changes to shared data sets or target data sets for a specific business purpose are managed by data governance structures with relevant stakeholder engagement.

3.6 Designations of authoritative data sources are reviewed and approved by data governance.

The data management staff is typically responsible for capturing authoritative data source information in the organization's metadata repository or equivalent location.

See Governance Management and Data Management Function for more information related to stakeholder role expectations and governance oversight of these activities.

3.7 Measures and metrics are defined, and associated information is collected to assess progress in process to data mapping efforts and the adoption of authoritative data sources.

Example Work Products
- Process to data mapping templates
- Data mapping project plan (with milestones)
- Data management organizational roles and responsibilities
- Change management process for defined data sets
- Lifecycle data mapping of core business processes
- Identified data attribute sources
- Authoritative data sources for data attributes
- Impact analysis of proposed changes to managed attributes and their supported processes
- Recommendations for additional attributes, modifications, and changes to source-to-target mappings
- Interface, data source, and destination change records
- Data maps
- Context diagrams
- Map for shared data set attributes across data schemas
- Governance process to identify data dependencies
- Metrics measuring progress and authoritative data sources adoption

Level 4: Measured

4.1 A standard process is used across the organization for data lifecycle impact analysis, and to identify, estimate, and schedule changes to interfaces and data sets.

4.2 Metrics are used to expand approved shared data reuse and eliminate process redundancy.

Example Work Products
- Metrics documentation and results
- Approved process mapping change requests
- Remediation process
- Remediation plans

Level 5: Optimized

5.1 Metrics and stakeholder feedback are analyzed periodically for the purpose of introducing improvements into the management of data dependencies.

5.2 Data lifecycle metrics are periodically refined and reviewed by senior management.

5.3 The organization shares experiences with industry and peers regarding data management lifecycle processes.

Example Work Products
- Data dependencies reports
- Recommendations to improve data lifecycle management processes
- Data lifecycle forecasting reports
- Reports to senior management based on statistical analysis
- Public presentations, white papers, or similar documents communicating data lifecycle management process experience
- Reports to senior management highlighting new requirements for inclusion in process to data maps