

Functional Practice Statements - Data Requirements	
<div><div>Level 1: Initial</div><div><div>1.1</div><div>Stakeholders review and approve data requirements.</div></div><div>Data requirements should be consistent with the language of the business and employ standard approved business terms when available.</div><div><div>1.2</div><div>The business glossary is updated with approved data requirements.</div></div><div>Approved data requirements often have impacts to the business glossary, both when they are initially defined and also as they change. It is important to update the business glossary after the requirements are approved, project by project. The project lead provides the proposed additions or modifications to business terms to data governance, usually facilitated by the data management function.</div><div><div>1.3</div><div>Data requirements are evaluated and adjudicated against deliverables and either confirmed or modified.</div></div><div>A systematic approach is employed to collect, document, evaluate, prioritize, and verify data requirements as well as to align them with business objectives, analytical needs, and other consuming or producing applications.</div><div>Example Work Products<ul style="list-style-type: none">Catalog of business terms and their definitionsData requirements documentationReview board meeting notesDocumented stakeholder requirements review decisions</div></div>	
<div><div>Level 2: Managed</div><div><div>2.1</div><div>The data requirements definition process is documented and followed.</div></div><div>It is important for the data requirements process to be performed consistently within a business unit or equivalent organizational scope. Documentation of the process should be managed as a reusable asset.</div><div>The process should include identification and prioritization of data requirements critical to the business, including, as appropriate, critical data elements.</div><div>Data operations processes and workflows are mapped to the data requirements. In addition, the data requirements definition process should use and produce specific data requirements artifacts such as a standardized data requirements document template, which includes data quality rules.</div><div><div>2.2</div><div>The data requirements necessary to achieve data management goals are defined and demonstrably aligned with business objectives.</div></div><div>Alignment of data requirements to business objectives can be managed by using methods such as inference, mapping, traceability, relational databases, etc. The organization should determine and implement a method that best fits its culture and environment.</div><div>Refer to Data Management Strategy for more information about business objectives.</div><div><div>2.3</div><div>The traceability of data requirements to business requirements and objectives is maintained.</div></div><div>Organizations often apply a requirements management tool to ensure that requirements changes are fully traceable. Some data requirements may be captured through this capability. Others may be captured and maintained through data models, specialized templates, or the metadata repository.</div><div><div>2.4</div><div>Data requirements are aligned with the corresponding data model(s) and other related artifacts.</div></div><div>A best practice is to develop the logical data model in parallel with supporting analyses that decompose business requirements at progressively finer granularity and eventually into atomic testable statements. The logical design is iteratively refined, corresponding with requirements refinement.</div><div>Other artifacts may include work products such as custom-to-COTS mapping, etc.</div><div><div>2.5</div><div>Stakeholder roles and responsibilities for involvement with data requirements definition are specified, planned, monitored, and controlled.</div></div><div>A requirements definition stakeholder may be the owner of the data, a steward of the data, an end user of the data (internal or external), a provider of the data, etc.</div><div>Refer to Governance Management and Data Management Function for information about the roles and expectations of stakeholders.</div><div>The results of performing Data Lifecycle Management practices will support this process by providing information about data used in business processes.</div><div>Example Work Products<ul style="list-style-type: none">Data requirements specification documentRequirements mapping to business objectivesRequirements mapping to data model(s)Stakeholder requirements approvalsReview board notes and decisions.</div></div>	
<div><div>Level 3: Defined</div><div><div>3.1</div><div>Data requirements are defined, validated, and integrated using the organization's standard requirements definition framework.</div></div><div>Data requirements definition best supports the achievement of business objectives when the scope of the data:<ul style="list-style-type: none">Supports the new or improved business processIs specified in a clear and well organized fashionIs understood and validated by business sponsors and end users.</div><div>Individual activities and implementations should take direction for their data requirements definition activity from the organization's standard requirements definition process and templates. These should define all components of the requirements definition and be reusable from project to project.</div><div><div>3.2</div><div>Data requirements are assessed based on business priorities.</div></div><div>The criticality of data within scope should be evaluated against high-priority business objectives according to the primary purpose (for example, regulatory reporting). Customer feedback should be included in the analysis to determine if there are implied or unstated business objectives that may be important to accommodate. In addition, critical data elements should be identified, tracked, and managed.</div><div><div>3.3</div><div>The business processes that produce data are documented and linked to the data requirements.</div></div><div>Understanding the business processes involved in the production of the data that will be used to satisfy the requirements is essential to understanding its meaning, its correct use, and its owners. In addition, visibility into the process promotes trust in the quality of the data. Business processes are modeled with reference to the activities, products, or services resulting from process performance, in the language of the business.</div><div>In cases where there are known quality issues with the data resulting from the associated business processes, a redesign of the process may be conducted. This facilitates remediation of inadequate data stores, and specifies the scope and magnitude of data quality improvements.</div><div>Data Lifecycle Management supports this practice by providing information about the usage of data in business processes.</div><div><div>3.4</div><div>Data requirements comply with and include compliance requirements for both physical and logical data, including security rules as well as technical requirements.</div></div><div>Data requirement standards and templates developed at Levels 1 and 2 should now reflect organization-level compliance requirements.</div><div>Security requirements may include the following:<ul style="list-style-type: none">Physical security (e.g., communication of classification on screens and printed reports and a lack of access to secure machines)Logical security (e.g., row or column level security)Network segmentationEntitlement and permission managementGranting authorizationsEncryption (e.g., server data encryption, data extract encryption, etc.)</div><div>Technical requirements may address these items:<ul style="list-style-type: none">AvailabilityPerformanceDesignated platformCommunications capabilityInterface operational specifications (e.g., download frequency, etc.)Architectural compatibility, etc.</div><div>Most organizations require interface specification or control documents, which specify selection criteria as well as technical requirements for interface operations. This information can be included in the technical design document or in a separate document, at the organization's option. Many organizations find that they do not have sufficient information about their interfaces, leading to challenges with integration testing, emergency efforts late in the design phase, etc.</div><div>The bottom-up task of fully specifying interfaces will result in valuable information and greatly increased understanding of the existing data architecture for all stakeholders. Creating documentation for existing interfaces is a labor intensive task, but it is important input for streamlining the data layer over time. It is recommended that the organization adopt an event-driven approach to ease the cost and effort burden; for example, requiring that project teams create or update interface specifications during a major release.</div><div>See the products produced and managed by the organization through execution of the Architectural Standards process area.</div><div><div>3.5</div><div>Requirements are evaluated to ensure that they are implementable in the target environment.</div></div><div>The complexity of the implementation environment should be documented and reviewed to provide guidance for a high-level architecture that will best mitigate the existence of multiple, and sometimes competing, requirements (e.g., business versus security versus technical).</div><div>Example Work Products:<ul style="list-style-type: none">Standard data requirements templateRequirements mapping to use case documentation (e.g., flow charts with swim lanes)Requirements mapping to business processesDocumented data security and entitlements rulesStakeholder or review board consensus documentation (minutes, approvals, etc.)</div></div>	
<div><div>Level 4: Measured</div><div><div>4.1</div><div>Industry best practices pertaining to data requirements have been evaluated against selected criteria to determine if they should be adopted into the development lifecycle.</div></div><div>Selection criteria may include the cost of adoption and implementation, analysis of performance before with anticipated performance after, and the amount of training required to adopt or implement. These criteria can also be weighted based on cost, risk of implementation, and maintenance. Specific criteria associated with the data also may need to be considered.</div><div><div>4.2</div><div>Defined and managed metrics ensure that data requirements as defined satisfy business objectives; corrective actions are taken when performance is not meeting business needs.</div></div><div>Example Work Products:<ul style="list-style-type: none">Standard toolset to maintain mapping and traceability between business requirements and data requirementsSelection criteria for industry best practices for the data requirements definition framework</div></div>	
<div><div>Level 5: Optimized</div><div><div>5.1</div><div>The organization has implemented continuous process improvement to ensure efficient and consistent prioritization, selection, and verification of data requirements.</div></div><div><div>5.2</div><div>The organization shares best practices with industry and peers regarding data requirements.</div></div><div>Information sharing can be through presentations, papers, active participation in standards bodies, etc.</div><div>Example Work Products<ul style="list-style-type: none">Recommendations to improve data requirement processesDecisions to change data requirement processesPublic presentations, articles, and white papers</div></div>	