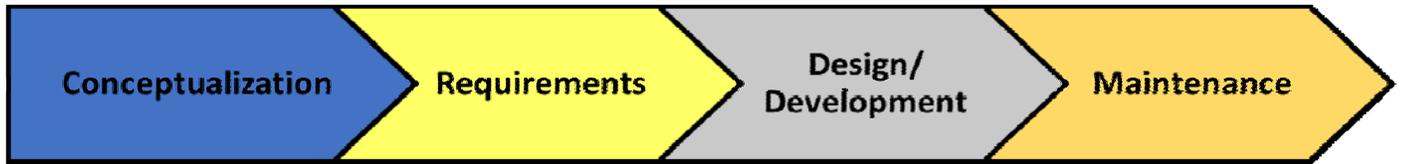
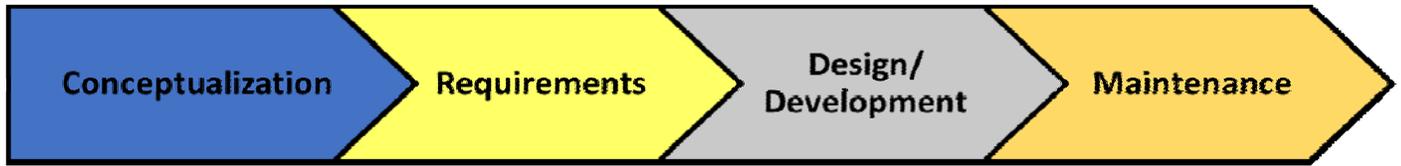


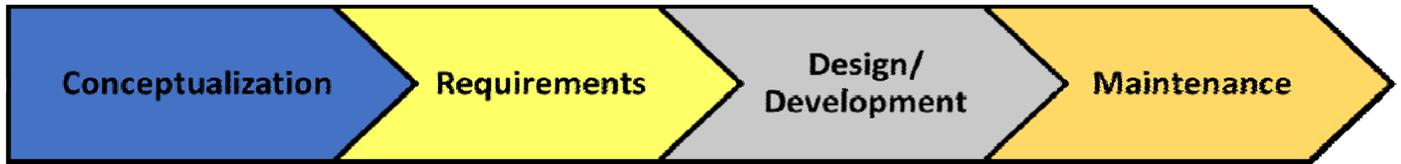
Conformed Dimension	Underlying Concepts	Current State:		Notes
		Business	IT	
Completeness	Record Population		✓	This is hard to control until the data model has been developed, so included in the Design and Development phase- once a model is up and running.
	Attribute Population	✓		By the time that business requirements are provided to technical teams, the list of fields must be known, so this should be evaluated within Requirements phase or even prior to the extent possible.
	Truncation		✓	By definition- truncation happens when a whole value is somehow cut off or reduced- losing data. Typically this happens when information can't be stored into a system's data model due to system/software constraints, therefore this is most applicable once that system has been developed or just prior to that.
	Existence	✓		One of the first questions when starting a new data project is, 'Do we have this data?' and that is the essence of the Existence concept. It must be addressed right at the beginning when the data related exercise begins.
Accuracy	Agree with Real-world	✓		When data is conceived it requires a model, or way to structure it, for human consumption and storage in a system. At that point the method of comparison to the real-world in terms of correctness must be defined.
	Match to Agreed Source		✓	Once the data required has been defined in the Conceptualization phase, we can identify alternative sources and equivalents within the landscape that can be used as controls. By the time that we're creating Requirements we should be able to identify which existing data can be used to measure quality of this newly collected data point/set.
Consistency	Equivalence of Redundant or Distributed Data		✓	Very similar to 'Match to Agreed Source' the control for consistency checks needs to be done at the requirements phase so that it can be implemented in the following Design phase.
	Format Consistency		✓	Once a data model is proposed in the Design phase, the consistency of format needs to be reviewed and the reason for any purposeful inconsistencies should be documented.
	Logical Consistency		✓	When data requirements are defined and later modeled, it's important that Logical Consistencies expected are defined in controls that ensure that ensure alignment of like concepts- even though they may be derivative or related attributes.
	Temporal Consistency	✓	✓	Without historical data available, it can be challenging to set upper and lower limits for Temporal Consistency, however it's best to define these controls and measure them through the maintenance phase (making adjustments as needed).



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		Business	IT	
Validity	Values in Specified Range	✓		Similar to Temporal Consistency, data ranges set up during the Requirements phase ensure Validity from the the first day the data is collected.
	Values Conform to Business Rule	✓		Data is conceived of in context with the rules that define and constrain it. To to the extent business rules are known during Conceptualization and at least by Requirements phases, should be converted into data quality rules added during the Requirements phase.
	Domain of Predefined Values	✓		When a new attribute is defined and documented in Requirements it's domain is required in order to property model it. This enables domain specific DQ constraints.
	Values Conform to Data Type		✓	Data types may not be defined until the physical data model is created in the Design phase, but they also add additional constraints that ensure data quality.
	Values Conform to Format		✓	Similar to Data Type constraints, Format constraints, whether enforced at the application or database layer, should be added in the Design Phase.
Timeliness	Time Expectation for Availability		✓	When the reason for collecting a data point is conceived the type of analysis associated with it is known which often dictates the timeliness of it's delivery. To some extent this can be altered later, but initial controls can be set during Conceptualization and Requirements.
	Manual Float	✓		Timeliness often is dictated by human input data, therefore any controls relating to data entry during the Requirements phase should accommodate this factor.
	Electronic Float		✓	Timeliness by humans that is restricted by systems can't be defined until the systems have been Designed and built. Clearly design must solve for these processing periods.
Currency	Current with World it Models	✓		The sensitivity to how current data is depends on the type of analysis conducted. Once this is known during Conceptualization, requirements for the collection of that data and assurances of quality levels must be established.
Accessibility	Ease of Obtaining Data		✓	Once the use of the data has been conceptualized tools and processes that will access that data can be identified. At this point Accessibility levels should be identified with alerts when these levels aren't met.
	Access Control		✓	Because Access Control is typically constrained at the application level, controls are hard to establish until at least Requirements and maybe during the Design phase.
	Retention		✓	Even though retention requirements are established during Requirements, the controls often must accommodate system specifics that aren't known until Design and Development.



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		Business	IT	
Integrity	Referential Integrity		✓	Conceptual levels of Referential Integrity should be articulated during requirements, but often the control itself can't be established until the data model has been deployed in design/development phases.
	Uniqueness		✓	Uniqueness underpins the meaning of data and therefore often comes hand-in-hand with the Conceptual phase and later documented in Requirements.
	Cardinality		✓	Similar to Uniqueness, Cardinality is required in order to conduct analysis of business objects and relationships, so typically is conceived with Conceptualization, but may not be documented until the Requirements phase.
Precision	Precision of Data Value		✓	Often a field is conceptualized but the precision isn't exactly know until the Requirements phase when it's articulated to IT. This may even get revised during the design phase as pseudo data is created and loaded. Validations should be set up at this point to ensure that it is checked, preferably at data-entry time.
	Granularity		✓	Granularity required may be somewhat flexible when conceptualized, but by Design time it should have been locked down in the data model. This means that constraints can be applied to ensure it retains its integrity.
	Domain Precision		✓	To the extent possible it's really important to know the precision of your domain sooner than later. Optimally this happens during the Conceptualization phase, but potentially it is too costly to collect very granular data, so during the design phase the grain is relaxed a bit.
Lineage	Source Documentation		✓	As new systems, or business processes get created the data source may change, but an initial plan for the source is best known during Conceptualization which helps set expectations of quality early on.
	Segment Documentation		✓	Because documentation closely follows design the segment documentation can be provided during the Design/Development phase. Typically the depth of this documentation is set at an enterprise level so there aren't surprises about the amount of work required on documentation of new segments.
	Target Documentation		✓	Target documentation can be reused to the extent that the target system already exists and has documentation, otherwise this is created shortly after design/development.
	End-to-End Graphical Documentation		✓	Many tools can reverse engineer end-to-end lineage, but the business symantics that correspond with that are often done during the mainteance phase, but shouldn't be skipped.



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		Business	IT	
Representation	Easy to Read and Interpret	✓		The data representation typically is defined during Requirements and controls associated with that can be documented as well.
	Presentation Language	✓		The way the data is presented is important and should be defined during Requirements so that the design phase builds out that functionality.
	Media Appropriate	✓		Media is usually the physical, or language specific aspect, and dealt with during requirements. If the data is to be printed on paper, or a poster...etc, the expected lifetime of the media should be taken into account- hence the requirements phase must document this expected quality level and audit over time.
	Metadata Availability	✓		When choosing what data to use for analysis- it's best to also identify whether corresponding descriptive data is available, and if you plan to create new data, the associated metadata should be created when the collection system is created. Periodically, verification should be done to ensure that the metadata is current and used by stakeholders.
	Includes Measurement Units	✓		During the requirements phase the data is defined- and accordingly the measurement units should also be included as a form of metadata.
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