**DATA MODELING CHECKLIST**

**BUSINESS RULES**

* Properly document and verify all business rules with the end users.
* Ensure that all business rules are written precisely, clearly, and simply. The business rules must help identify entities, attributes, relationships, and constraints.
* Identify the source of all business rules, and ensure that each business rule is justified, dated, and signed off by an approving authority.

**DATA MODELING**

**Naming Conventions: All names should be limited in length (database-dependent size).**

**Entity Names:**

* Should be nouns that are familiar to business and should be short and meaningful
* Should document abbreviations, synonyms, and aliases for each entity
* Should be unique within the model
* For composite entities, may include a combination of abbreviated names of the entities linked through the composite entity

**Attribute Names:**

* Should be unique within the entity
* Should use the entity abbreviation as a prefix
* Should be descriptive of the characteristic
* Should use suffixes such as \_ID, \_NUM, or \_CODE for the PK attribute
* Should not be a reserved word
* Should not contain spaces or special characters such as @, !, or &

**Relationship Names:**

* Should be active or passive verbs that clearly indicate the nature of the relationship.

**Entities:**

* Each entity should represent a single subject.
* Each entity should represent a set of distinguishable entity instances.
* All entities should be in 3NF or higher. Any entities below 3NF should be justified.
* The granularity of the entity instance should be clearly defined.
* The PK is clearly defined and supports the selected data granularity.

**Attributes:**

* Should be simple and single-valued (atomic data)
* Should document default values, constraints, synonyms, and aliases
* Derived attributes should be clearly identified and include source(s)
* Should not be redundant unless they are justified for transaction accuracy,
* performance, or maintaining a history
* Nonkey attributes must be fully dependent on the PK attribute

**Relationships:**

* Should clearly identify relationship participants
* Should clearly define participation, connectivity, and document cardinality

**ER Model:**

* Should be validated against expected processes: inserts, updates, and deletes
* Should evaluate where, when, and how to maintain a history
* Should not contain redundant relationships except as required (see Attributes)
* Should minimize data redundancy to ensure single-place updates
* Should conform to the minimal data rule: “All that is needed is there and
* all that is there is needed.”