Modeling Metrics

Metrics are an important part of model design. They not only identify the quantifiable data you want to analyze, but are also what AtScale needs to generate aggregates for a model at query runtime.

> **Note:** Metrics are sometimes referred to as measures in Design Center.

A metric is a numeric value representing a summarized (or aggregated) dataset metric (such as the sum of sales or average order quantity). Metrics always result from an aggregate calculation applied to one or more columns of a fact dataset.

- **Types of Metrics**: There are different kinds of metrics you can add to a model: additive metrics, non-additive metrics, and semi-additive metrics. This section explains the different kinds of metrics and how AtScale's aggregate system manages them.

- **About Metrics and Aggregates**: AtScale's aggregate management system depends on the metrics you define in a model. Every model must have at least one metric. The metrics of a model provide the basis for analysis in a BI client application.

- **About Queries on Dimensions that are Unrelated to One or More Queried Metrics**: You can use the **Unrelated Dimensions Handling** feature (which is enabled by default) to specify the behavior of the AtScale engine when all of the following conditions apply:

- **Add Additive or Non-Additive Metrics**: You can add additive or non-additive metrics to a model by choosing a column in the fact dataset, and choosing a supported aggregate calculation to apply to the data in that column.

- **Add Semi-Additive Metrics**: In AtScale, creating a semi-additive metric allows you to choose dimensions over which the fact data should NOT be aggregated. Instead, you have the choice of returning the first or last non-empty value of a result set.

- **Add Calculated Metrics**: You can add a calculated metric to a model by writing an MDX formula that operates on existing metrics already defined the model.

- **Add or Edit a Metric within a Dimension**: Metrics are only allowed on the fact datasets of a model. However, you can add a secondary metrical attribute to a dimension, which behaves like a metric in a very limited context of the model.

- **Bulk Create Metrics**