

# Modeling Cube Measures

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

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

## ▲ [Types of Cube Measures](#)

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

## ▲ [About Measures and Aggregates](#)

AtScale's aggregate management system depends on the measures you define in a cube. Every cube must have at least one measure. The measures of a cube provide the basis for analysis in a BI client application.

## ▲ [About Queries on Dimensions that are Unrelated to One or More Queried Measures](#)

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 Measures](#)

You can add additive or non-additive measures to a cube 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 Measures](#)

In AtScale, creating a semi-additive measure 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 Measures](#)

You can add a calculated measure to a cube by writing an MDX formula that operates on existing measures already defined the cube.

### ▲ [Add or Edit a Measure within a Dimension](#)

Measures are only allowed on the fact datasets of a cube. However, you can add a secondary metrical attribute to a dimension, which behaves like a measure in a very limited context of the cube.