Understanding Parameters

While the two may often result in changes to the produced results in the similar ways, they are actually two very different things.

A **filter** sets the scope and criteria of data to consider to be displayed. That is a filter's only function. Normally filters are not persistent or *co-aware* across reports. This behavior is possible, but not always desirable. When multiple filters are present and have values/options set, the resulting data effectively gets whittled down to conform to all the conditions the filters are asserting. For example, you may have data that includes a phone number and an extension number. If you set the filter corresponding to the phone numbers to only include a few the data set is shrunk to match the filter's conditions. If you set specific extensions on top of this, the data set may be reduced even further. However, if you removed one of those filters back to default (this is the (All) option in most cases), the resulting valid data set expands again.

Parameters, on the other hand, can be used to power filters behind the scenes but can also be used to control the *logic* used to produce results. Unlike filters, parameters *are co-aware* if the same parameter(s) are used across multiple Reports within the same Reporting Workbook. In this case, selecting or specifying a value/range in a parameter will be reflected in other Reports that also use the same parameter. Parameters can be used as **constants** to assert something or be used as a variable factor in calculations. In this way, Parameters can not only be used to change the presentation of resulting data and also act as a filter, but also can potentially *create data* locally within the Report.

A simple example would be to have two parameters called "Criteria" and "Value". "Criteria" presents two values as a selectable option: Larger Than and Smaller Than. "Value" is a field that lets you input a number. Behind the scenes taking the selection and value of the two parameters into consideration, Insight may produce different results.

You'll get very different results if you selected "Larger Than" versus "Smaller Than" because they are identifying two very different criteria to evaluate the data on. For example, if your data being evaluated contained rows with values ranging from 1 to 100 making a selection of "Larger Than" with a "Value" of 50 would give you the upper half of the data set while changing the "Criteria" parameter to "Smaller Than" would give you the lower half - the data sets based on the "Criteria" selection while keeping the same "Value" will produce two distinct subsets of results that *do not overlap*.

> ⓘ While we say Parameters can "create" data this is a bit of a misnomer. While new values are created and expressed in reports, the calculations are **not being persisted long term** and only exist for as long as the Parameter is set to its current value.
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> If you exit from a report or refresh the page, the Parameter will revert to its default value. The only way to keep a Parameter's value long term is to set it then save the current View. Doing this and selecting the View again later on will set the Parameter and any other modified filters to the values they were at allowing you get back to what it was previously. However, calculations based off Parameters are not stored formally in any data backend and are typically performed in real-time when the Parameter value is set or changed. Such calculations will only persist if exported to Excel after setting the Parameter.