



On-Demand Training: Filtering Measures Transcript

The training tutorial we'll be going over here is on Filtering Measures, it's one of a series of filtering training tutorials. We would encourage you to check out the other trainings as well.

We're going to start off with illustrating the example of how Tableau handles row level filtering. So, in this case I'm viewing my Product Subcategory Sales as well as Profit across the view. You can quickly see things like tables that are very high-selling but unprofitable overall. Perhaps I want to filter this view to only show me the profitable records for each of these subcategories.

So we can filter out just those unprofitable records that make up each of these overall aggregate marks on the view and we'll worry about those later and make this a little bit more comparable. Because maybe, for instance, tables actually has quite high profits when we filter out those really bad customers who are bringing our profits down. So we'll go ahead and drag Profit out onto the filter shelf and we get an option here to choose all values or a variety of aggregations. So this is where the distinction is made for row level versus summary level filtering. In this case, since we want to filter out all those underlying rows of unprofitable records, we're going to choose all values.

We're just going to set this range to start at zero. You see all the bars turn to green. So, not quite what we thought might happen with tables, but nonetheless it's pretty profitable overall when we exclude those individual underlying rows of data that are unprofitable. So, all the potential bad sales. Pretty interesting to see.

Now, to pose that question a different way, perhaps I want to make this view much more comparable and entirely eliminate any product subcategories that are overall unprofitable. So, perhaps I know that they are unprofitable, we need to work on them, and I just want to make this view more concise and easier to compare and contrast, just the product subcategories that are doing very well from a profit standpoint. So we can take Profit out onto the filter shelf again, and this time choose Sum, since that is the aggregate we're using in the view. And we get a much different range, here. It's much bigger, since it's showing the overall profit for each of those profit subcategories. We can set that to zero to start with, and now we have completely filtered out any of those red bars that were in our view.

You can see the difference, where this is thirteen marks versus if we go back to this view that had seventeen. So that illustrates the difference between row level and summary level filtering within Tableau using measures.

Now, let's move on to a bit more complex example. In this case, I have a list of my customers as well as their sales, broken down by product category, to compare how my customers are selling for each of the respective product categories. Perhaps I want to see a percentage breakdown for each of those. So, what percent of the total sales that Aaron Hawkins has are from the furniture category.

So we just need to do a quick table calculation to change that into a percentage. We'll do Percent of Total. It's not making much sense now since it's computing for each individual mark of all of them on the view. So, an individual mark would be just that one piece that we have highlighted here, of the office supplies for that one customer. So what percent is that of all the individual marks on the view is how it's computing now. We can change that to, instead of going Table (Down), calculate for each category. So now, for each respective customer, it's a potential one hundred percent of their total sales, and it's showing us the percentage breakdown for their purchases within each of the categories.

So, maybe a question is posed, I only want to see customers who have purchased at least twenty-five percent of all of their sales within the furniture category. So, to do that, we'll show you a quick way to get to just that view, and

then we can go to a bit more dynamic way, using calculated fields, instead of the table calcs and a few different clicks that we'll show you in just a moment. So from here, if I want to do this the quick way, I can actually just go up to that SUM(Sales) field that I have, and I can filter this to only show those marks where I'm getting twenty-five percent of the total sales per each customer.

And then I can actually hide the categories that are not furniture. Now I hide, and not exclude, because if I excluded them, that would completely change the calculation at hand, here. So we need all those marks to calculate appropriately what the percent of the total sales are, rather than just for one given category. So now we are looking at the customers who have purchased at least twenty-five percent of all their sales within the furniture category. We see exactly that. Quick and easy way to get down to that list.

Now, if we were to recreate that view again, showing all those customers, and what they purchased for each of those categories... Perhaps we want to do this a bit more dynamic if we know we're always going to be going back in and seeing that report updated, day-to-day, and even month-to-month. To do that, it would probably be best to create a calculation, so we don't have to hide fields and change the table calculation, we can just create a one-visualization report that shows exactly those customers who have purchased that amount within furniture. To do that, first, we're just going to create a basic calculation that shows just our furniture sales.

So, we'll go over to the Product category and right-click Create a Calculated Field. And we'll call this our Furniture Sales. This is going to be a basic cohort calculation you may have seen in other videos. If not, it should be pretty straightforward to follow. We're just looking for if the category equals furniture, then we want our sales, otherwise we just want null values because we don't want to compare them. And then that will return to us just those sales for furniture. So actually, we can just take Sales off the view, here, and show just that calculation we just created. And this would be just the furniture sales for each of those customers.

Now if we wanted to adjust this to a percentage basis to see if perhaps for one of these customers, what percent of their total sales did those furniture sales make up, we just have to create one more simple calculated field. We'll call this Furniture Percent of Total. Now we want to look at, for each customer, the aggregate sum of the furniture sales divided by the sum of their total sales. So, what percentage is their furniture sales of all their total sales. Hit OK. We'll drag that out instead.

Now we can see exactly that list, all the way down to the customers that have zero as a percent of total sales. And then, from here, we can filter this to exactly those customers that have purchased twenty-five percent of their total sales within furniture. And we see that reflected here. Now we can even quickly change this to a percentage format as well, rather than just decimals. Go into the number format, adjust that, and there we have it. So a bit more dynamic way that will hold and update, as we bring in more and more data, and we do not need to hide any fields. We just use the one calculation for each customer.

That concludes our filtering measures training. Please check out the other filtering videos as well. And thank you for using Tableau.