Creating the Density Dashboard

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Task 1: Data Dashboard and Storytelling

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# Creating the Density Dashboard

## The density dashboard will look like this when completed:

A picture containing chart

Description automatically generated

Figure Final Dashboard

THE DASHBOARD IS MADE UP OF FOUR (4) SHEETS AND ONE (1) PARAMETER

# Create New Data Source

Ensure that the three (3) data files mentioned above are saved to the local storage.

## Open Tableau, then select Data > New Data Connection.

## Add “Churn.csv” data

## Add “States.csv” data

For the second text file, the “states.csv” text file, select the file from the left pane and drag it over to the right side of churn\_clean.csv. There will be a line connecting the two data files. Click on the line connecting the two data files and then update the relationship by selecting State under churn\_clean.csv file and then selecting Code under the states.csv file.

Alternatively, double click on the Churn data then add the States table and join the two data tables into a single joined table called a set or union.

## Add “Population.csv” data

For the third text file, the “population.csv” text file, select it on the left pane and drag it over to the right side of states.csv. Click on the line connecting states and population, then update the relationships by selecting State under states.csv and Name under population.csv.

## Create table relationships

## Add Data Filters

## Here is what the data connections look like:

Graphical user interface, application

Description automatically generated

Figure Data Connections

the Three (3) data sources defined and connected to each other are show in the top right. On the left side, all of the available files associated with this connection. In the bottom right pane, the data details are displayed for whichever table is selected above, in this case, the churn\_clean is selected. Also, in the very bottom, if you need to come back to this area, you can select “data source” tab. If you have created a tableau user account, your user name is displayed.

# Cleaning the Data

## Remove fields from Churn data

Most of the cleaning has already happened externally using a combination of Excel or Python/Jupyter. But, it may help to simplify the Tableau work if some of the remaining fields are removed. Optionally, the following fields can be effectively removed by selecting the column and choosing Hide:

* CaseOrder
* UID
* County
* Interaction
* City
* Job
* Zip
* Population
* Lat
* Lng

## Remove fields from States data

Remove the following fields from the States data, by selecting the column and choosing Hide:

* Abbrev

## Remove fields from Population data

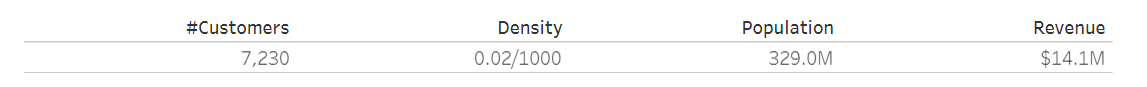
Remove the following fields, by selecting the column and choosing Hide:

* GEO\_ID
* POP\_BASE2020
* POP\_2020

## Before creating the sheets and dashboards, go through each fields and define the default colors and formatting, this will aid in creating consistently looking sheets and dashboards.

# Create Sheet Named “A” – Key Measures

## This will be the key measures table, it should look like this when done:



## Create new sheet named “A”

## Create Calculated Field Named “Density” and update its default settings:

Name: Density

Calculation: count([Customer])/sum([Population])\*1000

Color: Red 5 steps

Number Format: Number (Custom), 2 decimal places, suffix “/1000”

## Drag “Churn” to filter, select “No”, want to include only loyal customers.

## Create Measures Names/Measures Values, click on Customer (Count), Revenue, Population and Density in the data pane on the left, then drag all four (4) measures highlighted green, to main area on the right side, then move the “Measure Names” from Rows to Columns. This drag and drop action will create a new “Measures Names” dimension which can be edited to add/remove other fields if needed, like this:

Graphical user interface, text, application

Description automatically generated

Figure Edit Measures Names (Optional)

## Fit to “Fit Width”

## Hide sheet title

## Hide column labels

## Here is what the final sheet looks like:

Graphical user interface, application

Description automatically generated

Figure Final Sheet of Key Measures

# Create Sheet Named “B” - Density Values Grouped by Region

## This will be the next part of the dashboard, the breakdown of density values grouped by Region. It should look like this when finished:



## Move “Region” to the Columns shelf.

## Drag “Region” to Label

## Drag “Region” to Color

## Drag “Churn” to filter, select “No”, want to include only loyal customers.

## Fit to “Fit Width”

## Remove sheet title

## Hide Field Labels for Columns

## Hide Agg(Density) legend card

## And this is what the Tableau sheet looks like:

Graphical user interface, application

Description automatically generated

Figure Final Sheet for Region Totals

# Create sheet named “C” - Map

## Here is what the map sheet should look like:

Map

Description automatically generated

## Create new sheet named “C”

## Drag “State” from data pane to main area on right.

## Change mark type to Map.

## Drag “Density” to Color.

## Hide AGG(Density) legend card.

## Drag “Churn” to Filters, select “No” only, this visualization will show data for loyal customers only.

## Drag “State” to Label, two letter state codes are added to map.

## Add “Customer”, “Density” and “Population” to Tooltip

## The final map sheet should look like this:

Graphical user interface

Description automatically generated

Figure 6 Final Map Sheet

# Create sheet named “D” – Top N States Table

## The last section of the dashboard should look like this:

Chart, bar chart

Description automatically generated

Figure 7 Top X States Table

## Create new sheet named “D”

## Create new parameter named “Top N”

Graphical user interface

Description automatically generated

Figure 8 Top N parameter

Name: Top N

Data Type: Integer

Allowable values: Range

Range Min: 1

Range Max: 30, not all of the states, some number 20-30 for breaking up the list of states.

## Right Click on “Top N” parameter, then select “Show Parameter”

## Create set named “State Set”

Graphical user interface, application

Description automatically generated

Figure State Set

## Create calculated field named “Top N States Calculated”

[State Set]

## Create calculated field named “Subset Density”

IF [Top N States Calculated]

THEN "Top " + str([Top N]) + " States"

ELSE "Others"

END

## Drag “Subset Density” to Rows inbetween IN/OUT(State Set) and State

## Right click IN/OUT(State Set), uncheck “Show Header”

## Hide AGG(Density) card.

## Hide sheet title

## Hide field labels for Rows

## Everything is done, this is what the final sheet looks like:

Chart, bar chart

Description automatically generated

Figure Final Density Table Top N States

# Create new dashboard named “Density”

## Create new dashboard named “Density”

## Set custom size to 750x1400

## From the top, drag sheet “A” to dashboard

## Drag sheet “B” to dashboard

## Drag sheet “C” to dashboard

## Drag sheet “D” to dashboard

## Show dashboard title

## Modify dashboard title to read:

<Sheet Name> : Loyal Customers per 1000 population

# Publish to Tableau Public

## Save to Public Tableau As…