Insight toy Company 2017 Visualization Report

Description

Insight Toy Company manufactures and sells toys. The information is based on financial, manufacturing, and sales and marketing data from 127 facilities throughout the world. The data source is made up of 57 Columns and 252.1K Rows.

Task 2

Visualizations were created to summaries the gross margin in the year 2017. The Gross Margin we calculated as the difference of Product sales and product cost of sales.

The very first visualization was represented via crosstab from the objects that summarizes the product sales and Gross margin based on countries and continents. Where the product sales and the gross margins were specified for all the 6 continents followed the by the countries of continents. Roles details are represented below Figure 1.

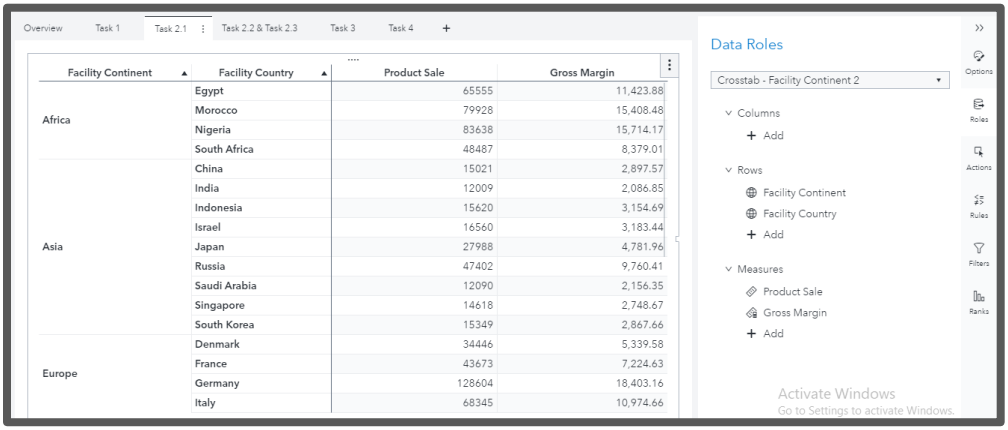

Figure 1. Crosstab visualization.

The second visualization was represented to showcase the country which generated the highest and lowest gross margin, I have used the Tree-Map to represent the same. The reason using this visualization is I find it clear and most related to the question asked it defines the highest and lowest Gross margins of the countries mentioned in legends, this works when we added the Frequency to color, Facility Country is mentioned in Tiles and Gross margin is added in the Size

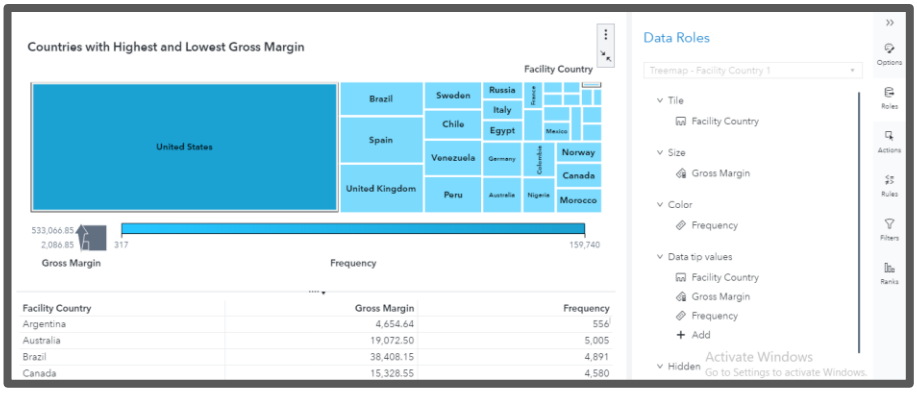

Figure 2. Tree-map Representation.

In Third section used the Time series plot to represent the product sales over time across all continents in the year 2017.I have used the time series plot for this representation where time is shown on X-axis. I checked using the Line plot

as well to determine if there is any difference but works exactly same as their also mentioned the Transaction month on x-axis and product sales used as measure. Time-axis which only takes date time format added the Transaction month them instead of Transaction Date contains 267 values to make it presentable. Roles details are mentioned in Figure 3.

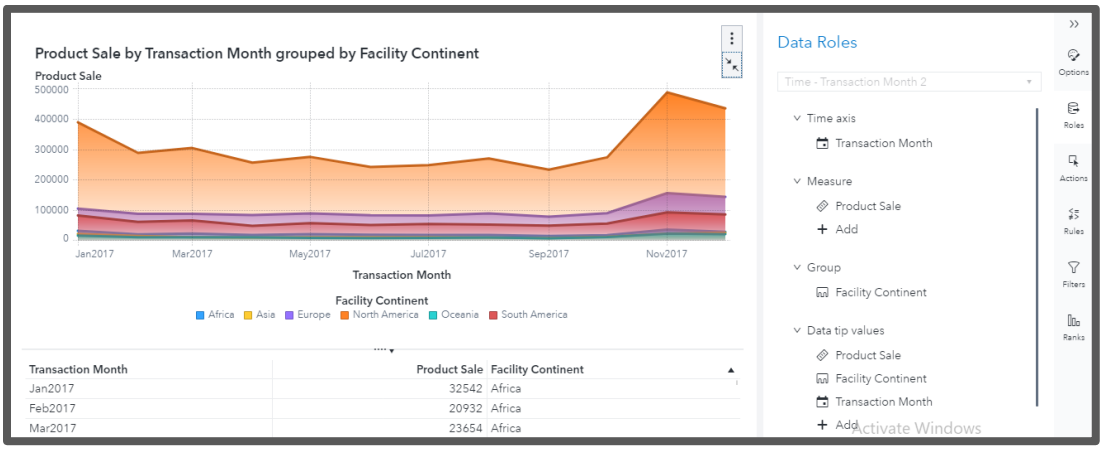

Figure 3. Time series plot.

Task 3

Interactive Visualizations were created to explore Product sales and customer satisfaction.

The geo-map hierarchy for Facility Continent, Country, Region, City in same sequence as mentioned. To do the process separately created the **geography item** by clicking in **new data item** data tab. The details shown below in Figure 5**,** Similar Process is followed for remaining three data items.

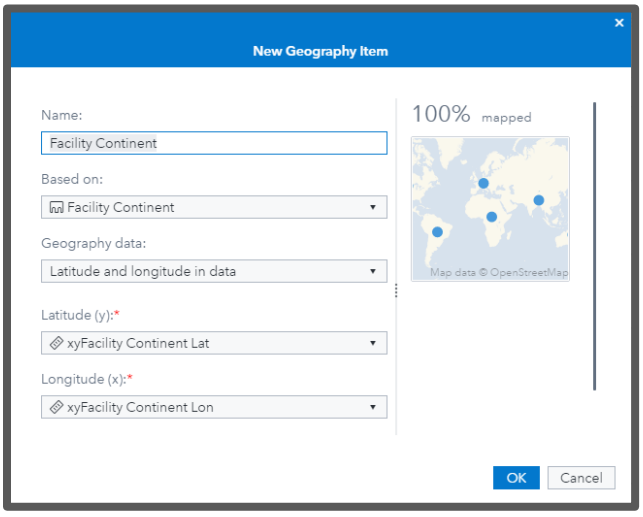

Figure 4. Creating the Geographic data item

Once created the geography data items for all 4 variables. They are further formed in form of hierarchy by clicking the button **new data item** and **selected Hierarchy** there. Simply drag the geography data items from left to right in same sequence as needed shown in Figure 6.

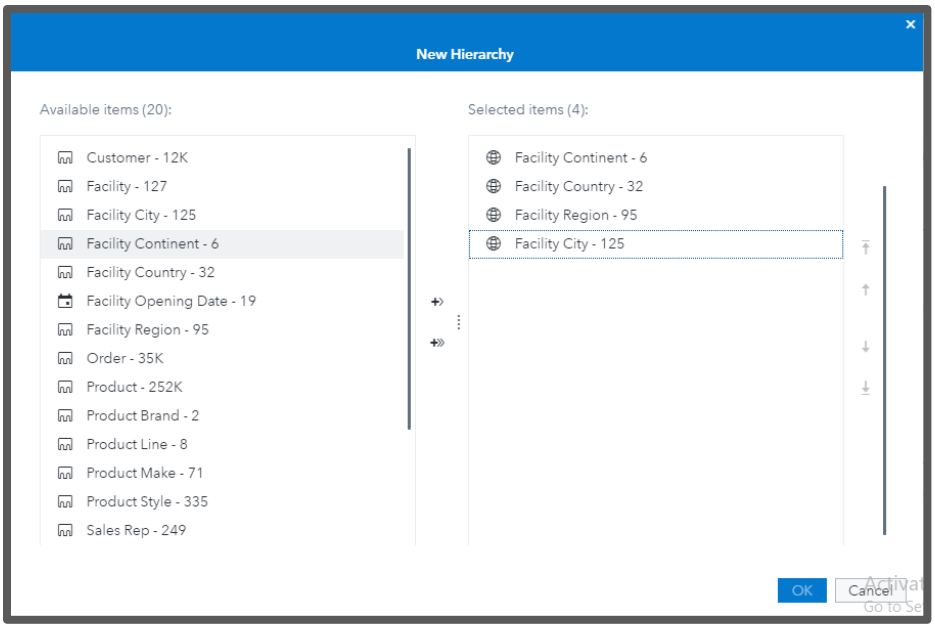

Figure 5. Geo-Map hierarchy Process.

Geo-coordinate is used to create the drillable geo-map which will represent the list of continents first and when will select one, I selected the North America will go further to country I selected United States here will further move to the regions in US, Region Arkansas, and city Little Rock. The Roles and filters are shown below in Figure 7.

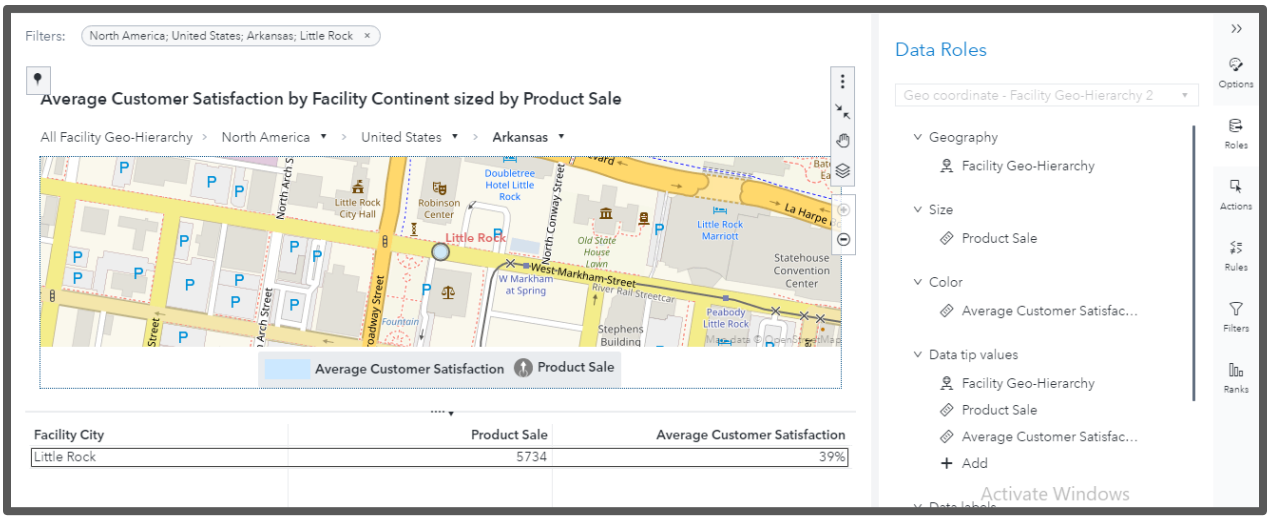

Figure 6. Geo-Map Hierarchy Graphical Representation

To Make the Map Interactive I used the **Action -> Actions on all objects**.

The second plot created here is to represent the Product sales over time in 2017.I used the same time series plot for this visualization as Transaction Month in X-axis for same reason as mentioned in Task 2. The plots below representation of each click starting from continents. Figure 7, 8, 9

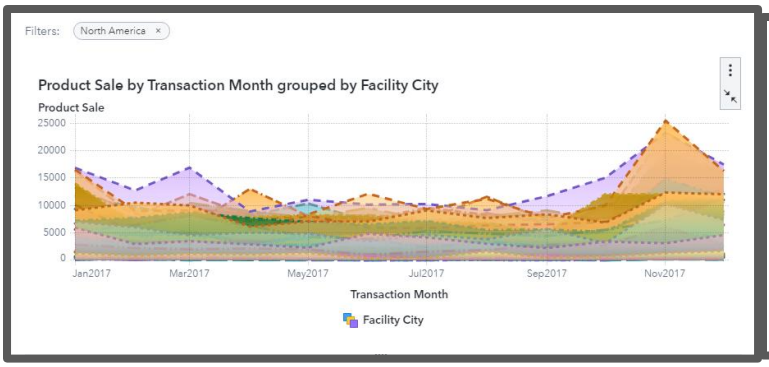

Figure 7. On click of Continent: North America

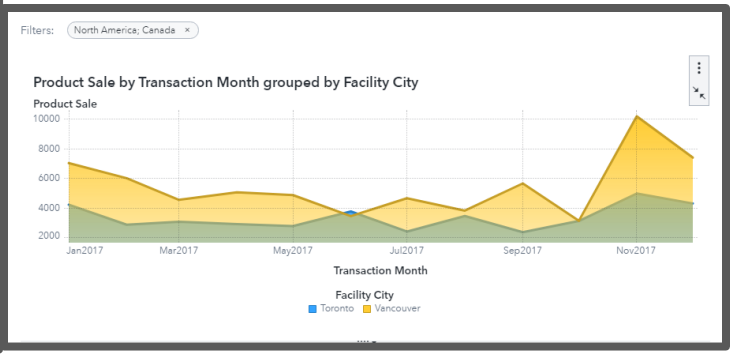

Figure 8. On click of Country: Canada

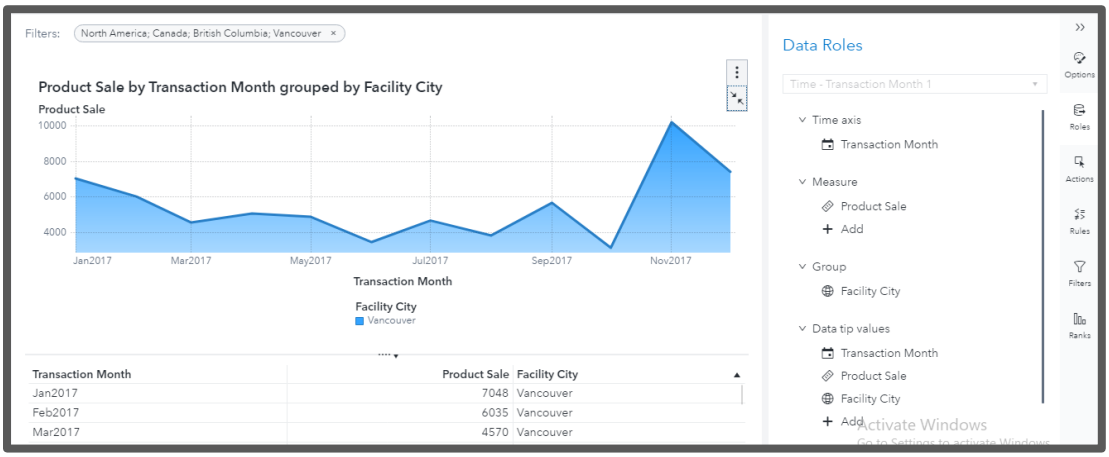

Figure 9. Time series Plot on click of Facility Region: British Columbia and City: Vancouver

Task 4

The dashboard is built for global product manager to check the correlations between the facility variables and the customer satisfaction. Used the button bar from the objects and assigned the facility content to button which mention the list of all 6 continents. Screenshot attached below Figure 10. with Role details.

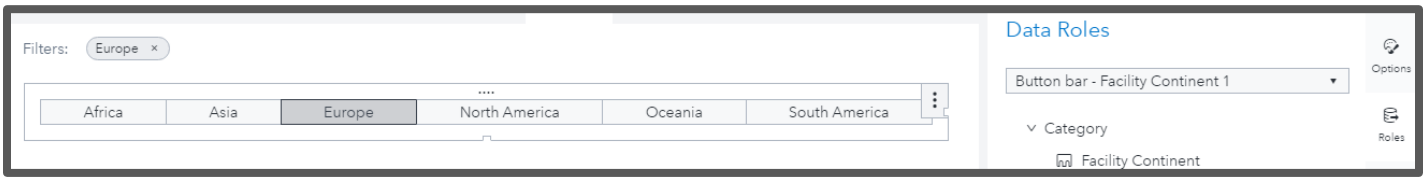

Figure 10. Button Bar

The bar chart is created to compare the Average Customer Satisfaction towards products from each Country based on the continent selected in the button bar. It is grouped by Facility, Facility Country in Category and Average Customer satisfaction in measure. The Average here is calculated by duplicating the data item and the changed **Aggregation to Average** the. before and after selection of Continents shown below.

Figure 11. Before Selection of any continent

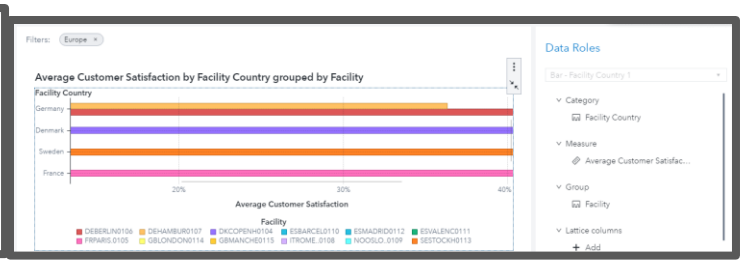

Figure 12. After Selection of Continent: Europe

All these below plots are further interactive based on Country selection on bar chart these graphs will vary.

For Determining correlation of measures used the Correlation Matrix from the objects. We can observe for Country Denmark the correlation matrix is -0.0608. Screenshot attached for reference Figure 13.

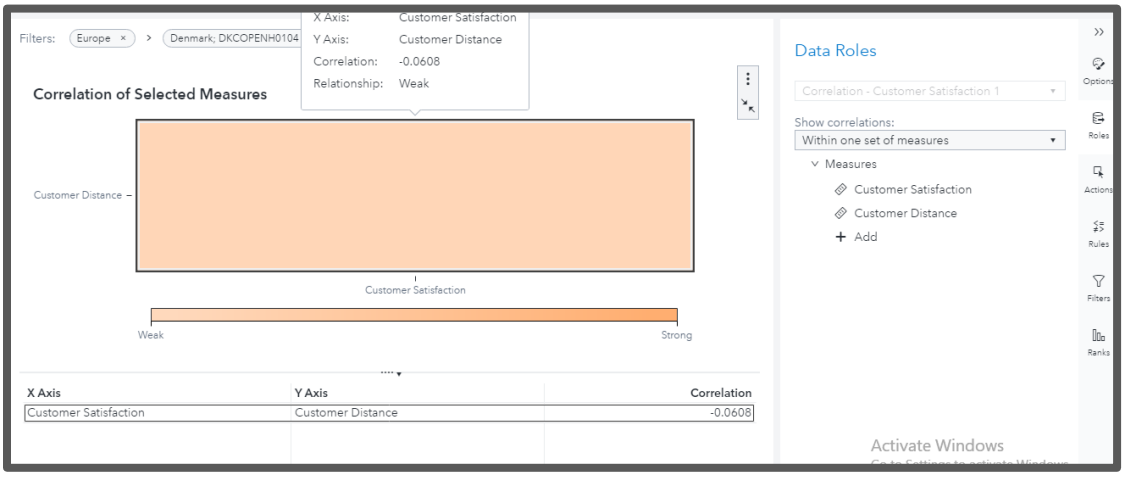

Figure 13. Correlation plot

I have used the Box Plot to Represent the distribution of customer distance instead of histogram because I want to specify the country which we selected from the above bar chart to be specifically used in Y-axis here which is not possible in histogram to make it more understandable. Also, the distribution can be observed as median is closer to the bottom of the box, and if the whisker is shorter on the lower end of the box, Hence, distribution is positively skewed for the Country Denmark. Shown below Figure 14.

Figure *14*. Box Whisker Plot for distribution of customer distance.

The last visualization is represented is time series plot where I have used the Transaction date in time-axis grouped by Facility Country so that on selection of country the name gets specified here in this plot. Shown below Figure 15.

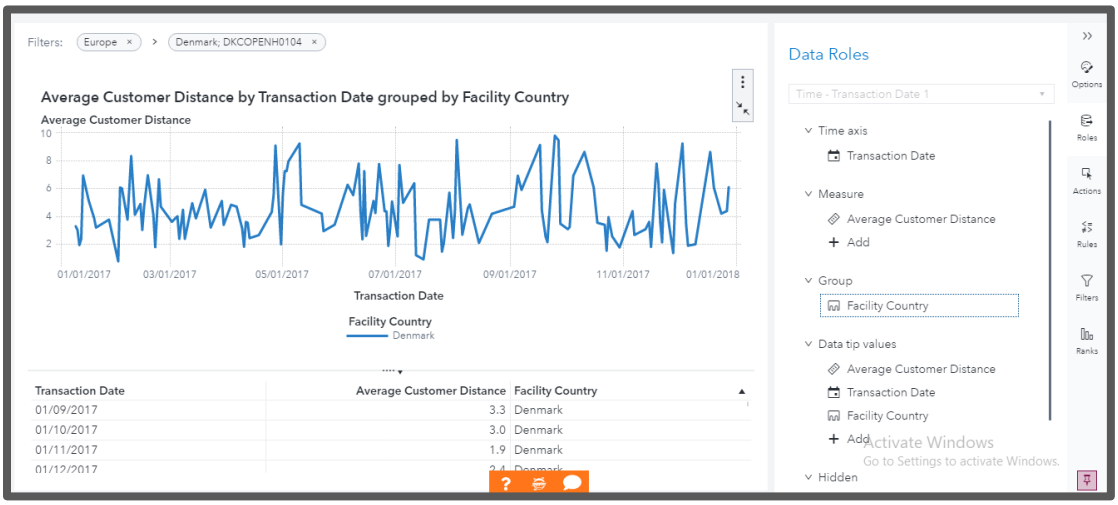

Figure 15. Time series plot.

The Final dashboard is represented below on selection of different continents. Figure 16, 17.

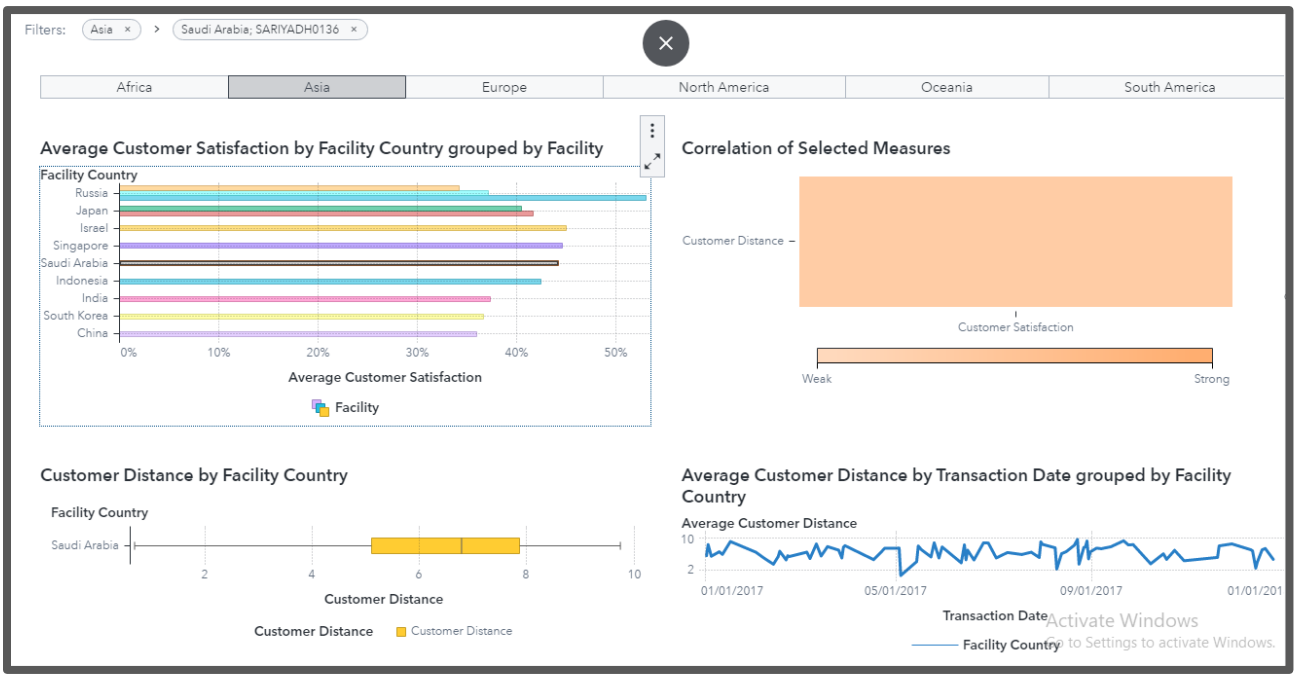

Figure 16. Dashboard on selection of Asia as continent and Saudi Arabia as Country

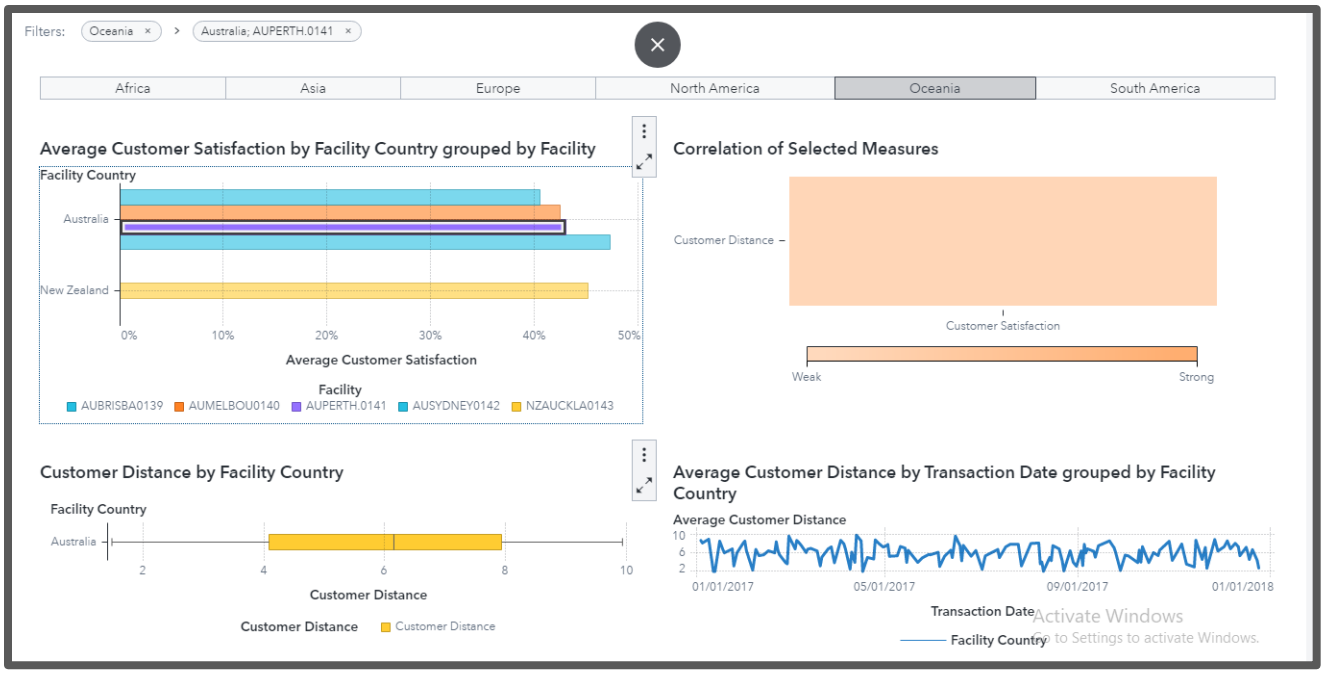

Figure 17. Dashboard on selection of Oceania as continent and Australia as Country

References

- SAS Help Center. (2012). SAS Documentation. https://documentation.sas.com/doc/en/vacdc/8.5/vaobj/n14ezqxeg2a195n1au1q980gbkte.htm