

MSiA-411 Data Visualization

Lab Exercise #7

Due Date: Wednesday, May 20

May 13, 2015

EXERCISE INSTRUCTIONS: Please put all your plots into 1 file (pdf, word etc) and submit it on blackboard. For this exercise you will use the “Superstore Subset” data set (comes with Tableau) we used in class.

1. Time Series (1 JPEG file per part, i.e. 1 JPEG for (a), 1 JPEG for (b) etc).

- (a) Create a time series chart for “Ship Date” (MONTH) versus “SUM(Profit)”. Your chart should include all months from 2010 to 2013.
- (b) Duplicate your time series and create a Centered 2-period Moving Average Smoother.
- (c) Put the Moving Average Smoother on top of the original time series, and change the colors to “blue” and “orange” respectively. Align the “Profit” axis with the “Moving Average of Profit” axis.
- (d) Interactive Moving Averages: create 2 separate sliders to control how many periods before and after the current value you can use in the Moving Average Smoothing. Make the range of the slider of the past values -10 to -1, and the range of the future values 0 to 10.
- (e) Is there seasonality in the data? Use the approach with the reference line we discussed in class.
- (f) Create a forecast for the next 6 months using only the “trend and season” option.

2. Maps (1 JPEG file per part, i.e. 1 JPEG for (a), 1 JPEG for (b)).

- (a) Create a filled map of the US. Include “Postal Codes” as well. The fill color has to show reflect “SUM(Profit)” for every postal code area.
- (b) Create a filled map for “SUM(Sales)”. Duplicate it and create a symbol map where the color and size of each circle represents “SUM(Profit)” in that state. For the color of the symbols in the symbol map, create your own custom sequential palette that contrasts well with the color of the filled map. Create multiple small maps by including Ship Mode (rows) and Customer Segment (columns) into the picture. At this point you should have 24 small maps (or 12 customer segment - ship mode pairs). Combine each symbol and filled map pair to obtain a total of 12 small maps.