Washington University in St. Louis
Olin Business School

DAT 560E Data Visualization for Business Insights

Individual Assignment 3 (SP2024-MiniA)

Due Date: TBD

1. (28 points) Use the Tableau tool to connect to "Real Estate 2024.xlsx" data.
Price = Selling price of a house, Size (Sq Ft) = Size of a home, Baths = Number of bathrooms, Beds = Number of bedrooms
   (a) Create a scatter plot for the Size (x-variable) and the Price (y-variable) with trend lines for the different Types of Sales. Add annotation to show the R^2 value for each type of sale.
   (b) Create a scatter plot for the Size (x-variable) and the Price (y-variable) with trend lines for the different Types of Sales that pass through the origin. Add annotation to show the R^2 value for each type of sale. Does forcing the trend lines passing through the origin in (b) make sense? Add a caption to answer this question.
   (c) Create a scatter plot of the Price (y-variable) and Baths (x-variable) with trend lines for the different Types of Sales. Add annotation to show the R^2 value for each type of sale. What can you conclude from the plot? Does forcing the trend lines passing through the origin in (b) make sense? Add a caption to answer this question.
   (d) Create a scatter plot of the Price (y-variable) and Beds (x-variable) for the different Types of Sales. What can you conclude from the plot? Add annotation to show the R^2 value for each type of sale. Does forcing the trend lines passing through the origin in (b) make sense? Add a caption to answer this question.

2. (32 points) Use the Tableau tool to connect to "Europe Superstore 2024A.xlsx" data.
   (a) Create a filled bar chart showing the Sales by the Ship Mode. Add labels for Sales. (8 points)
   (b) Create a sunburst chart showing the Sales by the Category (inner pie) and the Sub-category (outer ring). Edit the color legend. (9 points)
   (c) Create a Pareto chart for the Cost by the Sub-Category, including a bar chart and a line chart for % of the total running sum of the Cost. (Note: Cost=Sales-Profit) (7 points)
   (d) Create a jitter bar chart displaying the Cost by the Product Name and the Category. Add a filter for the year. Set the year to 2023. Add Region to the Color Marks card. (8 points)

3. (26 points) Use the Tableau tool to connect to the "World-GHG-Emissions-by-Sector-1990-2020.xlsx" file.
Design and create a dashboard including at least two charts, one map, one parameter, one dashboard filter action, and one dashboard highlight action to allow viewers to explore the following items:
(a) Which top N countries have the highest average greenhouse gas (GHG) emissions by what sector?
(b) The line chart for GHG emissions by year and Sector. Add a regression line for the trend. Add a filter for Sector.
(c) The donut chart to show the % GHG emissions by Sector.

Source: Climate Watch Historical GHG Emissions. 2021. Washington, DC: World Resources Institute. Available online at: https://www.climatewatchdata.org/ghg-emissions

4. (26) Design and create a dashboard with at least four charts for tracking the stock market price of Walmart Inc. (WMT) in the last 90 days. Please save your stock pricing data as an Excel file (from 1/1/2020 to the present) and connect it to this data from Tableau Desktop. Your final results should be saved as a twbx file.

5. (8 points) Create a candle stick for the Walmart Inc. data showing the stock price for the last three months.