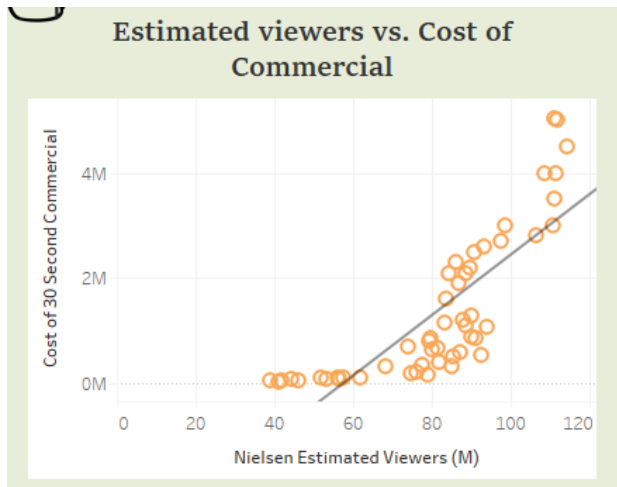Jacqueline Lopez

STA360-A

Dr. Lee

Feb 27, 2024

Project 2 Report

1. **Scatterplot**:

2. My group and I chose a scatterplot to show the relationship between the cost of 30-second commercials and Nielsen Estimated Viewers to read the relationship efficiently.

3. Q: How does the number of Superbowl viewers affect the cost of a 30 second commercial?

4. My group and I chose a scatterplot to show the relationship between numerical variables: Cost of 30 Second Commercials and Nielsen Estimated Viewers.

5. To answer the question stated in #3, it would be best to answer it using a scatterplot since the question involves two numeric variables, and it is helpful to identify the pattern and relationship between the two variables.

6. We selected numerical variables, the Cost of 30 Second Commercial and Nielsen Estimated Viewers, suitable for a scatter plot.

7. Looking at the scatter plot, I would say that it is easy to read since the trendline helps distinguish the moderate positive linear relationship.

8. Title: Estimated Viewers vs. Cost of Commercial, Y-axis: Cost of 30-Second Commercial, X-axis: Nielsen Estimated Viewers

9. Color: Orange and Point shape: Circles with a trendline to distinguish the relationship.

10. Our scatterplot is clear and well-organized since it answers the question in a readable visual.

11. Our scatterplot is well-edited without errors in grammar or punctuation.

12. Yes, our data point accurately represents the underlying dataset since from the highest point we see with more viewers, it costs more for a 30 second commercial.

13. The data set is okay; we did not have any outliers.

14. The scatterplot tells us that more viewers result in a 30 second commercial being more expensive.

15. Based on the trendline, we can determine the relationship to be moderately positive linear.

1. **<u>Boxplot</u>**:
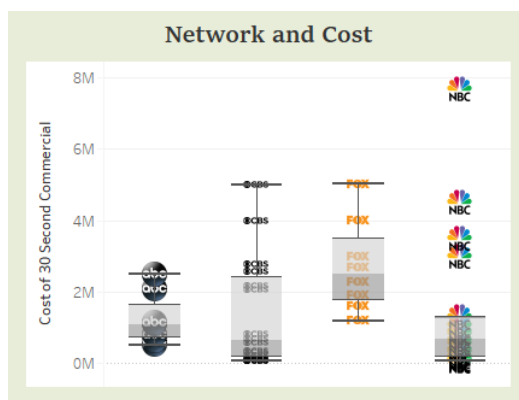
2. My group and I chose a boxplot to represent the cost of 30 second commercials and the networks to help visualize how each network differs by cost.

3. Q: Does the price of a 30 second commercial differ for each network?

4. My group and I chose a boxplot to represent a numeric variable, the cost of 30 second commercial, and a categorical variable, networks, to help visualize how each network differs by cost.

5. To answer the question in #3, it's best to use a boxplot or bar chart since we have one numerical variable and one categorical variable. Those graphs will help identify the relationship between variables.

6. We chose the numerical variable Cost of 30 Second Comemerical and categorical variable networks, both suitable for a boxpot.

7. Looking at our boxplot, I believe it is easy to follow, given that it neatly answers the question.

8. Title: Network and Cost, Y-axis: Cost of 30-Second Commercial, X-axis: Networks

9. An effective detail we included was the logo of each network as the points.

10. Our boxplot is clearly and adequately developed since it is visually appealing and answers our questions efficiently.

11. Our boxplot is well-edited without errors in grammar or punctuation.

12. Yes, our boxplot accurately represents the statistical distribution of the dataset since, for our points for NBC, we can see that it costs the most for a commercial.

13. We can see that for our boxplots, there are a few outliers for the network NBC.

14. Our medians vary for each network as well as the quartiles, minimum and maximum; with this, we can see that each network varies for a commercial.

15. We can see that CBS has the greatest spread, NBC has the most outliers, and FOX has the greatest median.

1. **<u>Stacked Bar chart</u>**:
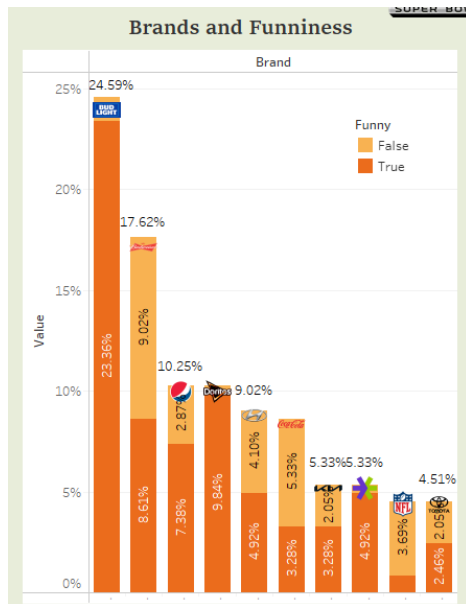
2. My group and I created this stacked bar chart to demonstrate how the brands of commercials differ in funniness.

3. Q: How much does the commercial brand affect the percentage of viewers that find it funny?

4. My group and I created a stacked bar chart using two catagorical variables: Brand and Value (Funny or Not) because the visual helps us read the relationship efficiently.

5. To answer the question in #3, it's best to use a stacked bar chart since two categorical variables are presented. It helps display elements such as funny or not and percentages within a graph.

6. We selected the categorical values Brand and Value, which are suitable for a stacked box plot.

7. Looking at our stacked bar chart, I believe it is easy to follow since it categorizes the sub-bars consistently and can be read easily to answer the question.

8. Title: Brands and Funniness, Y-axis: Value, X-axis: Brand

9. Effective details used were the color orange and funny legend to distinguish whether funny was true or false.

10. Our stacked bar chart is clear and well-organized since it helps answer the question readably.

11. Our stacked bar chart is well-edited without errors in grammar or punctuation.

12. Yes, our stacked bar chart accurately represents the composition of the data because we can see that the more funny the viewers find a commercial, the more popular the brand is.

13. Total bar height accurately reflects each brand's total value based on funiness.

14. Each category is easy to interpret since funniness is shaded by true or false and labeled with value.

15. We can see that the funnier a commercial is, the more success a brand will see or the more popular a brand is.