BUS 139 Data-driven Marketing

Stanford | Continuing Studies

Visualization

Six Basic Rules of Data Visualization

1. **Define your intended message beforehand**

2. **Provide clarity**

3. **Don’t obfuscate facts**

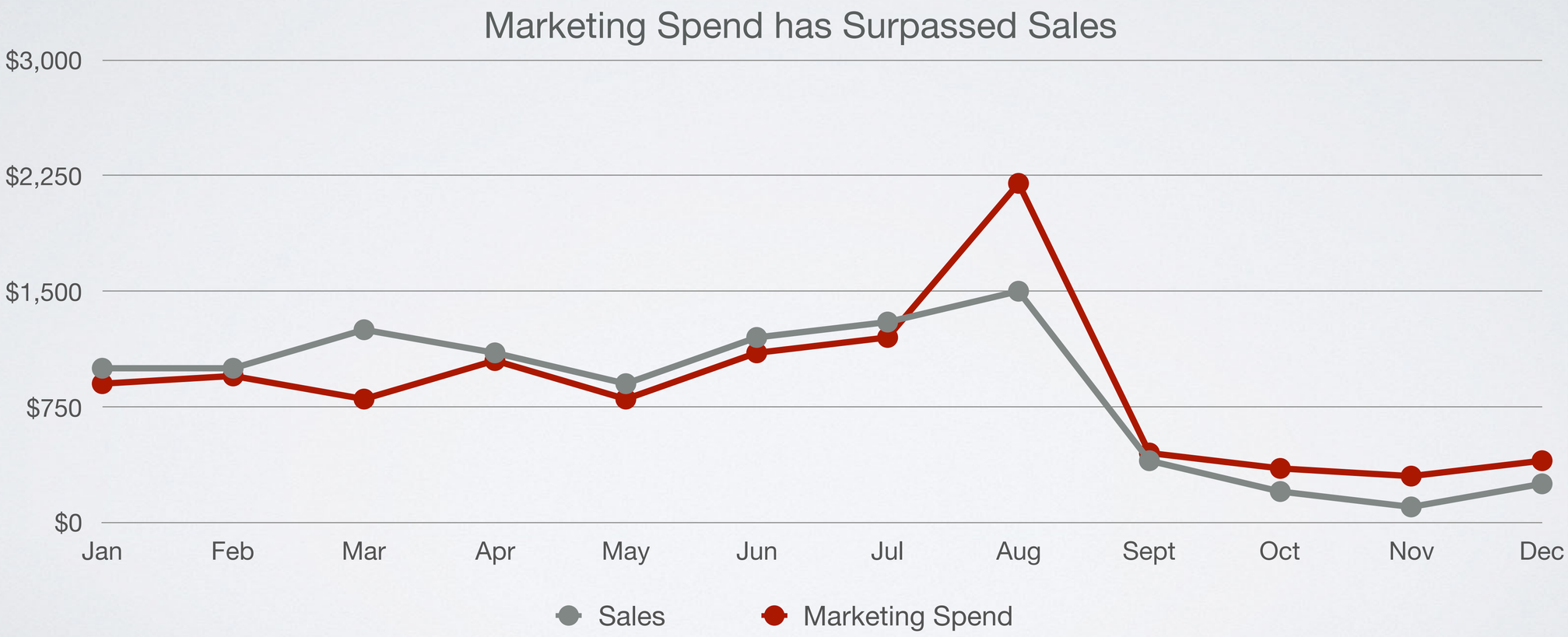
4. **Make it efficient**

5. **Reveal something about the data**

6. **Be actionable**

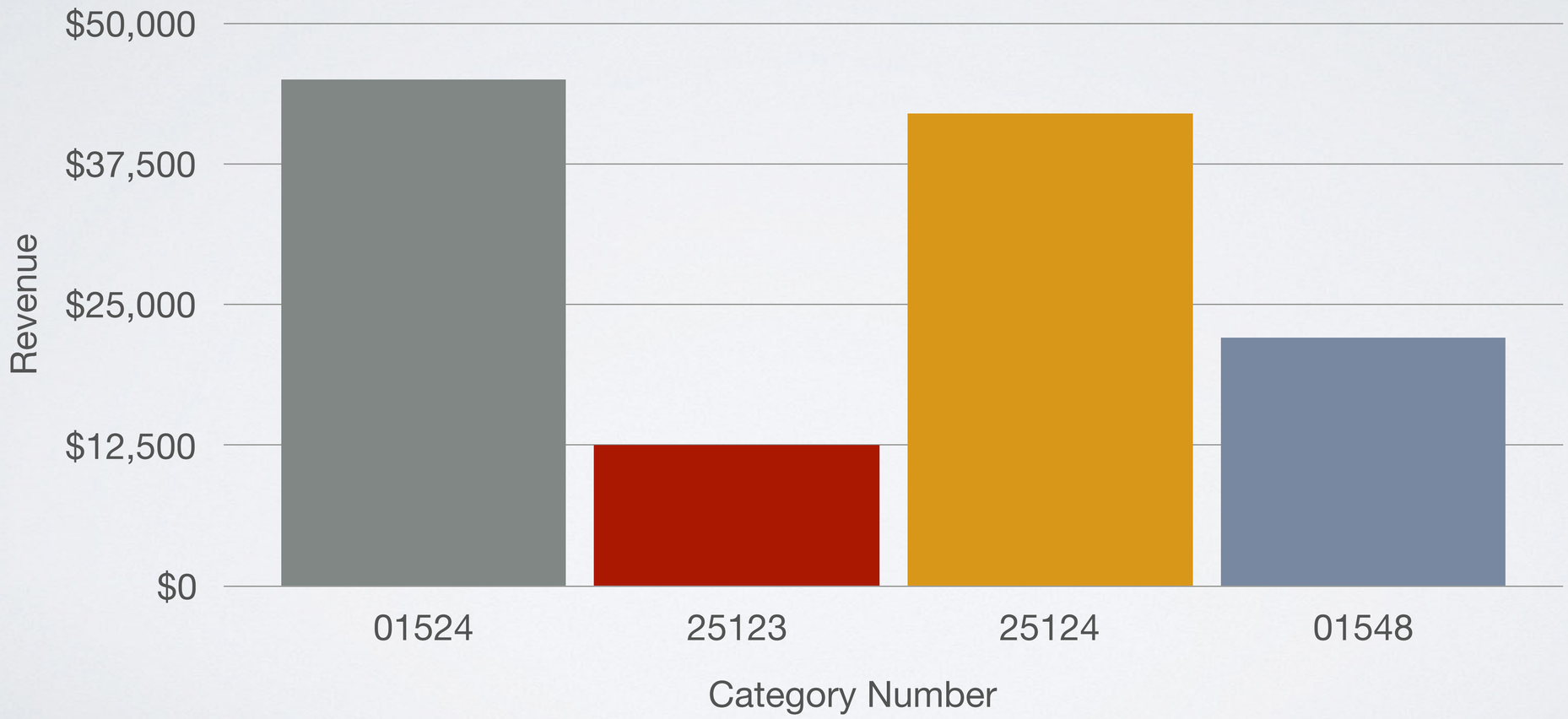
1. DEFINE YOUR INTENDED MESSAGE BEFOREHAND

Determine which relationship to convey and which data to emphasize



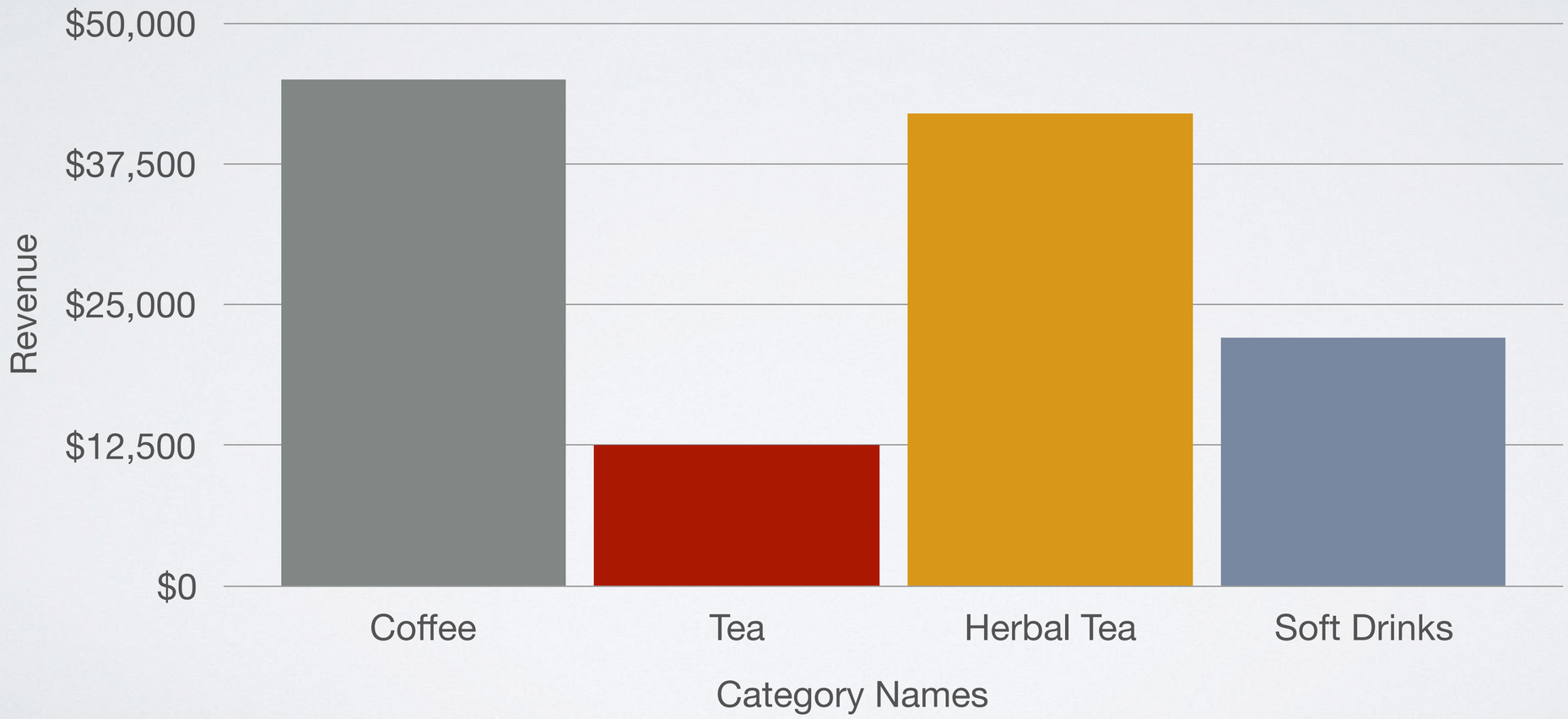
2. PROVIDE CLARITY

It can be difficult to visualize data that is purely quantitative or purely categorical.



2. PROVIDE CLARITY

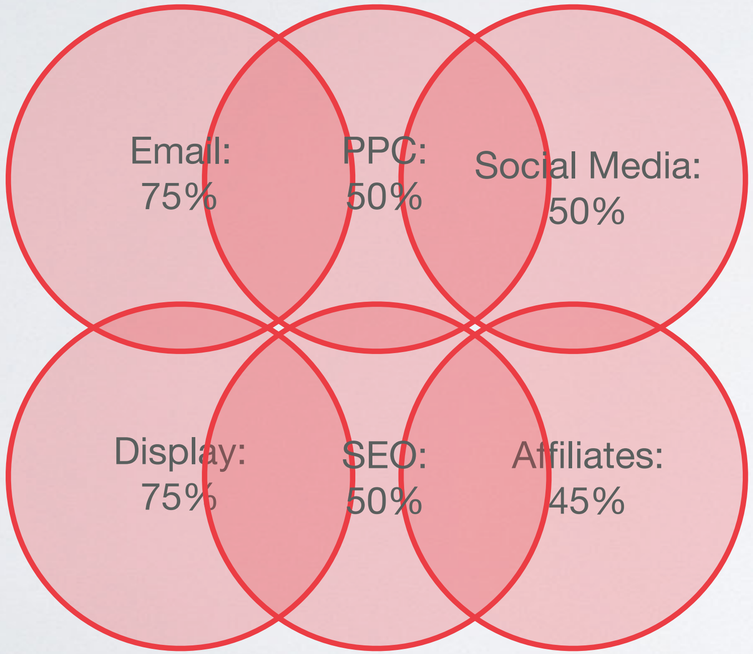
When representing data you must not only choose how to visualize it, but also how to describe it.



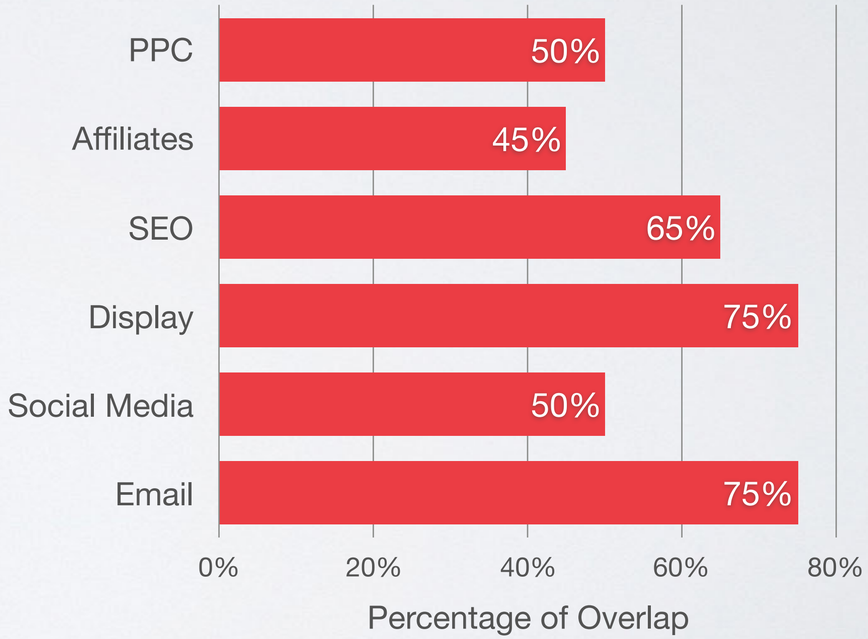
Always represent complete data sets, even the data that are seemingly uninteresting.

Avoid overloading views and presenting too many numbers in a small space.

Channel Overlap

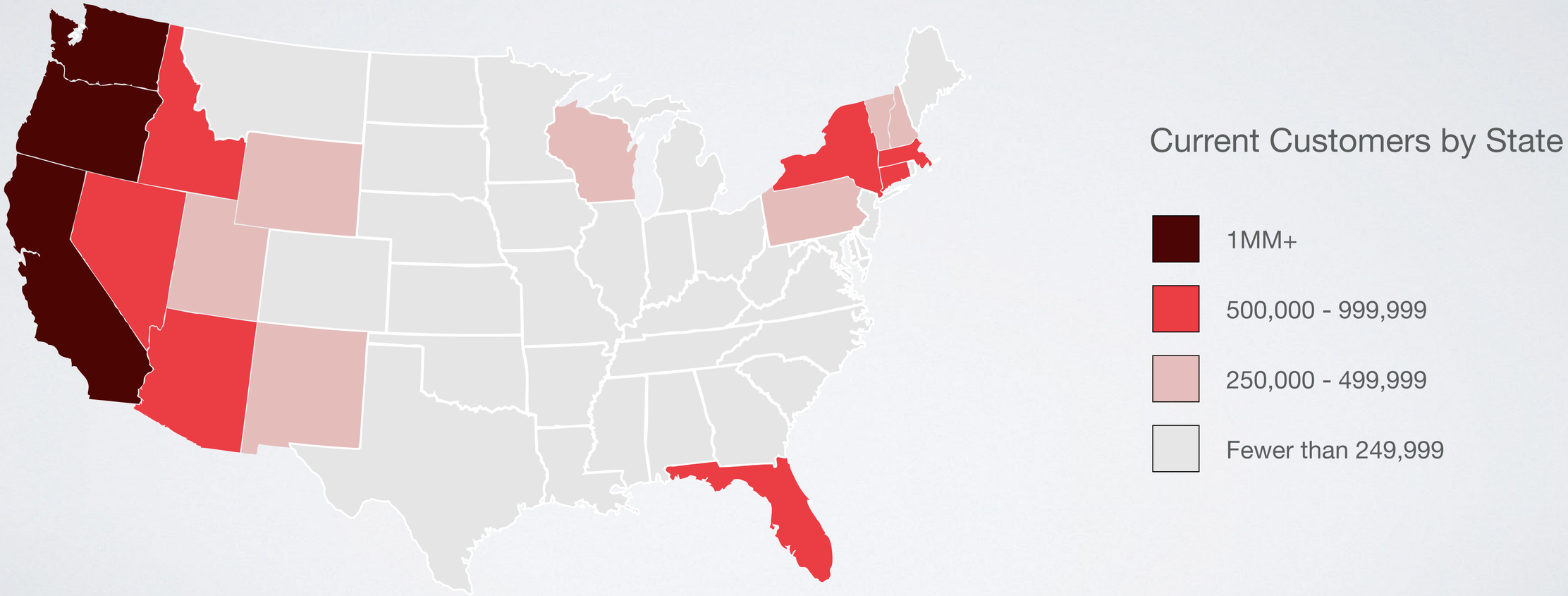


Channel Overlap

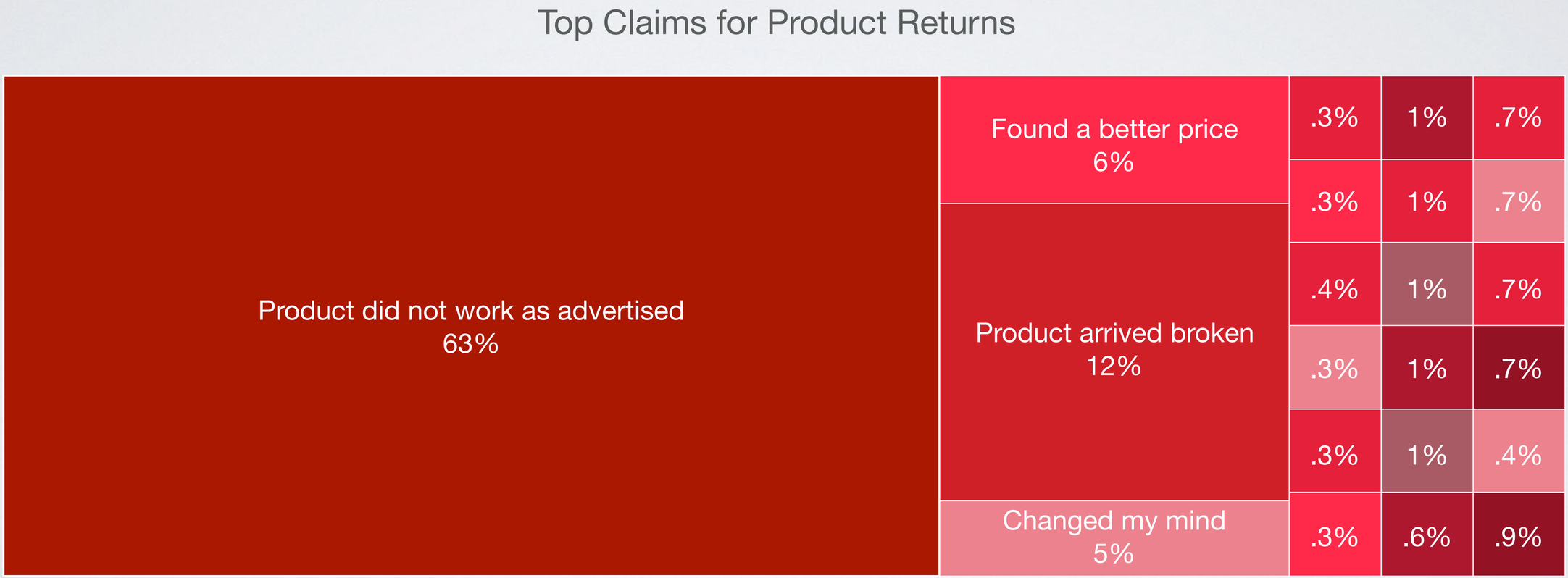


5. REVEAL SOMETHING ABOUT THE DATA

Visualize data to help people better understand complex spacial relationships.



Visualization can (and should) be used to spur action.

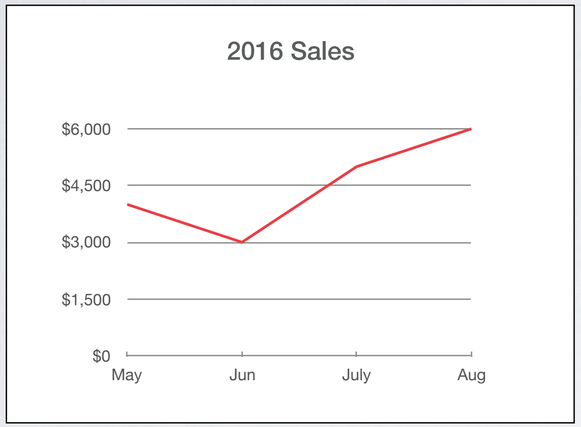


Seven tips for improving data visualization:

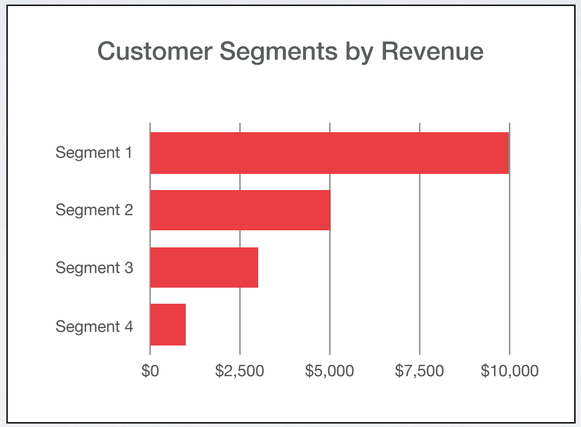
1. Always include a title that is clear and intuitive.
2. Put the most important data on the X or Y axis and reserve color, size, or shape for less important data.
3. Resist the urge to use 3-D charts and graphics.
4. Make sure to orient your data to maximize legibility and readability for the reader.
5. Limit your usage of colors and shapes so that your users can distinguish them and see patterns.
6. Make sure you can understand the visualization in :30 seconds or less.
7. Recognize the tradeoffs between the comprehensiveness of data and the audiences' understanding of the data.

Visualizing data really means visualizing relationships.

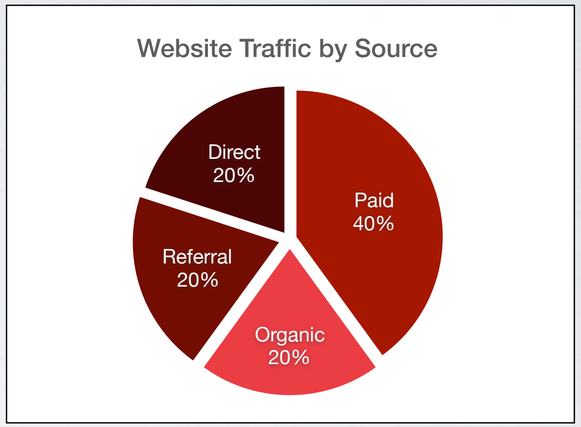
Time Series Relationship



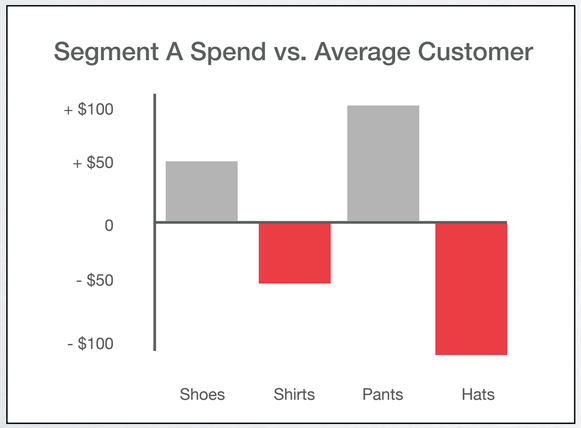
Ranking Relationship



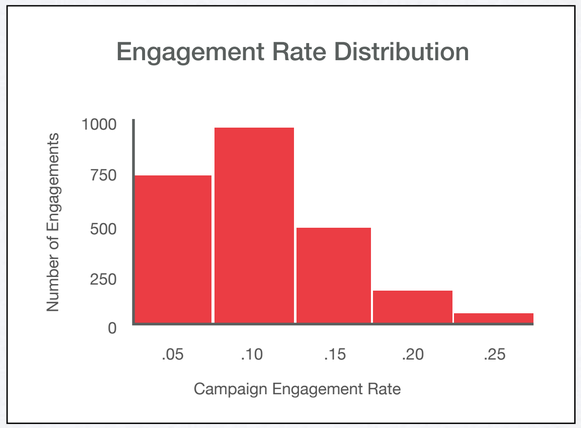
Part to Whole Relationship



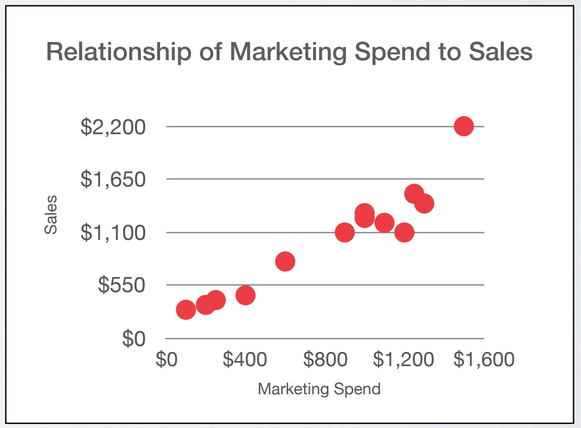
Deviation Relationship



Distribution Relationship

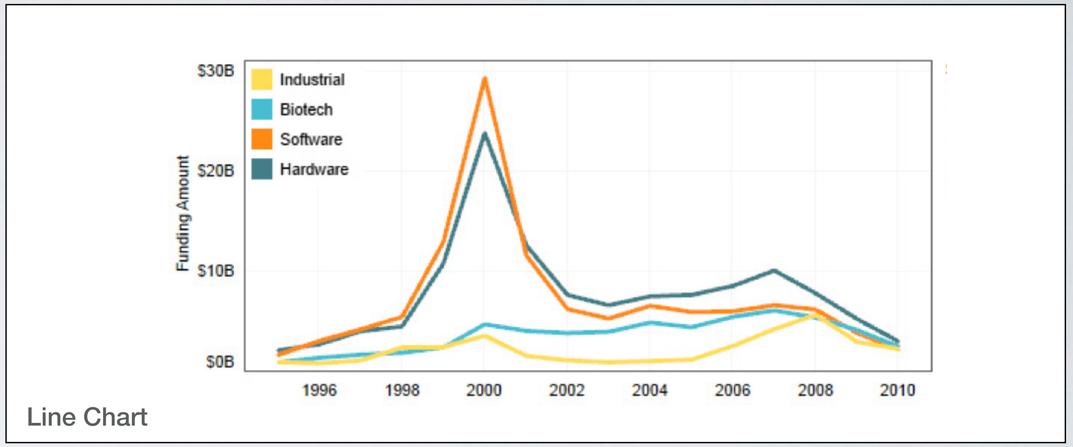


Correlation

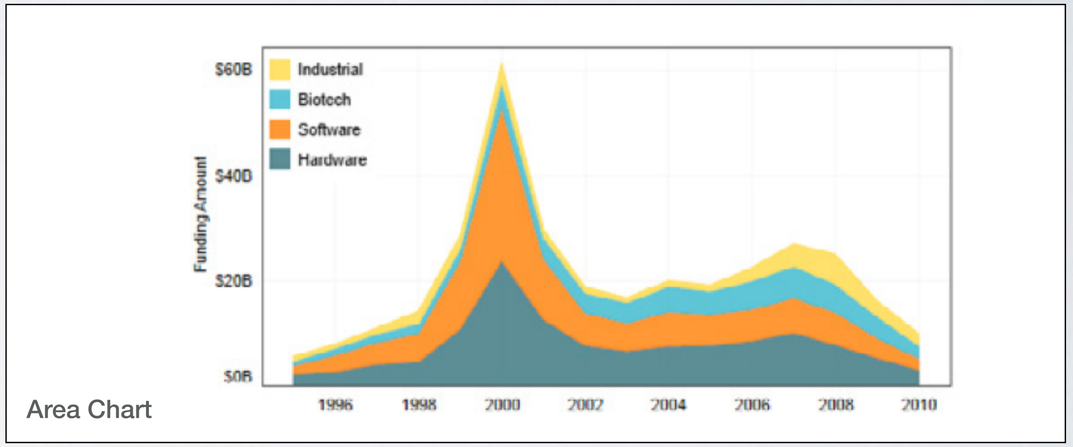


Time Series Relationships

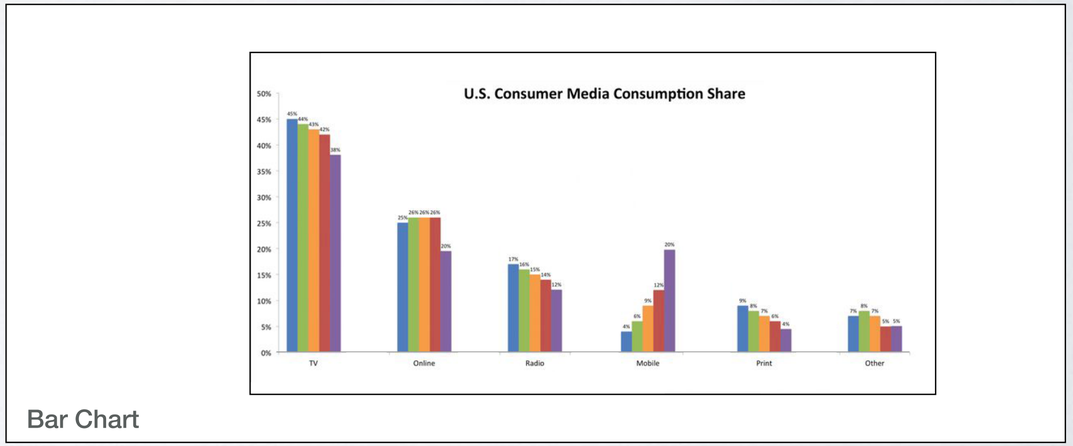
Line charts, area charts, and bar charts are for demonstrating trends over time.



Line Chart



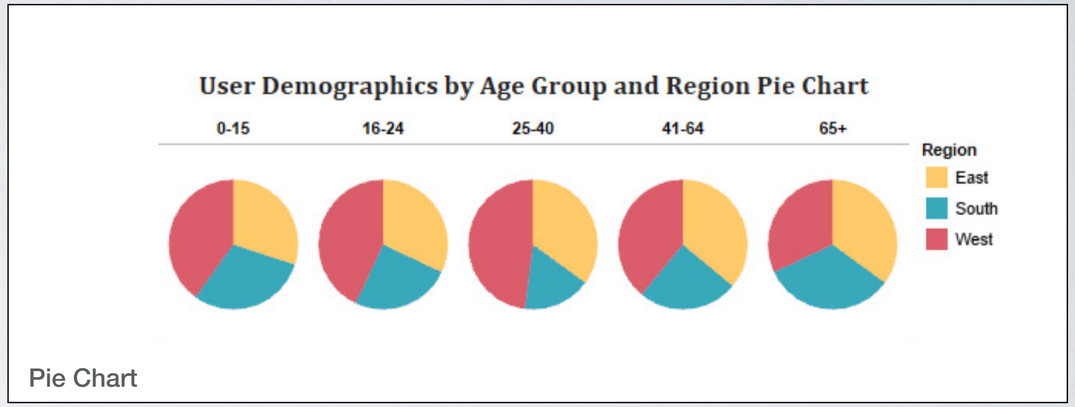
Area Chart



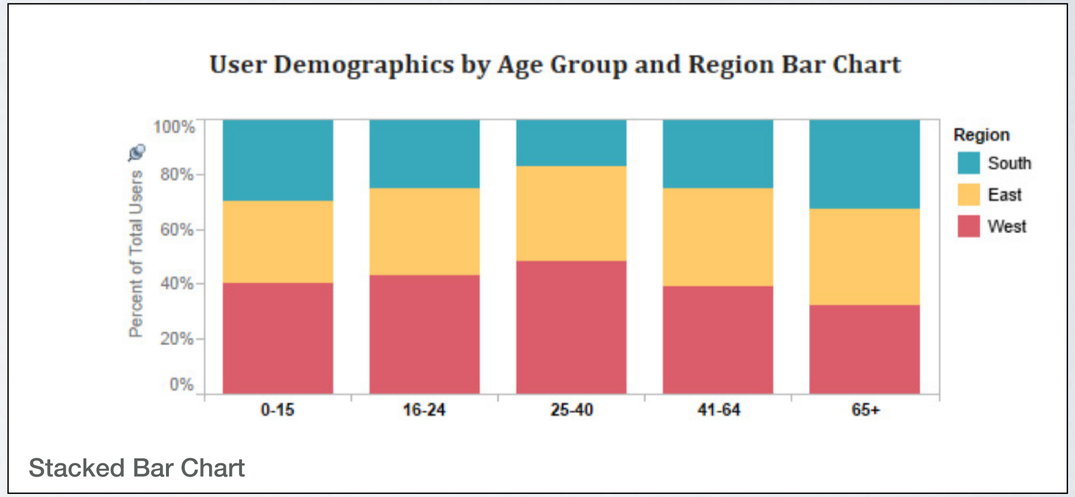
Bar Chart

Part to Whole Relationships

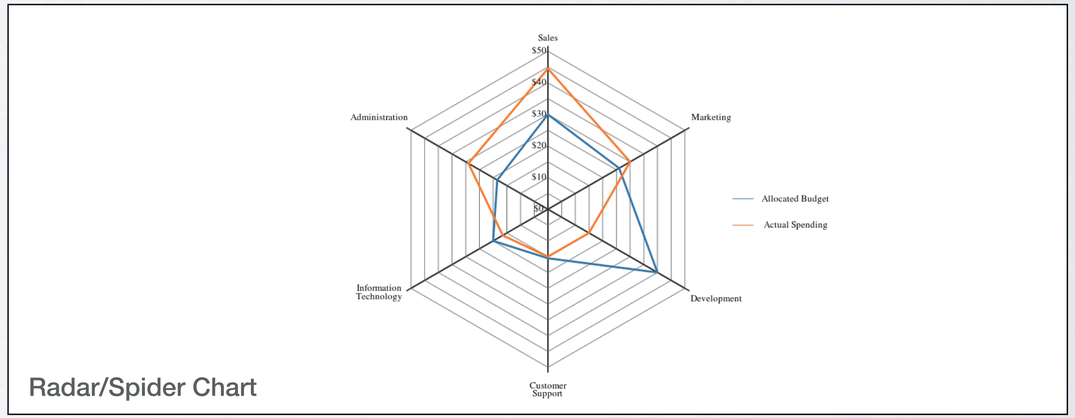
Stacked Bar Charts, pie charts and radar/ spider charts are for demonstrating unique segments and attributes.



Pie Chart



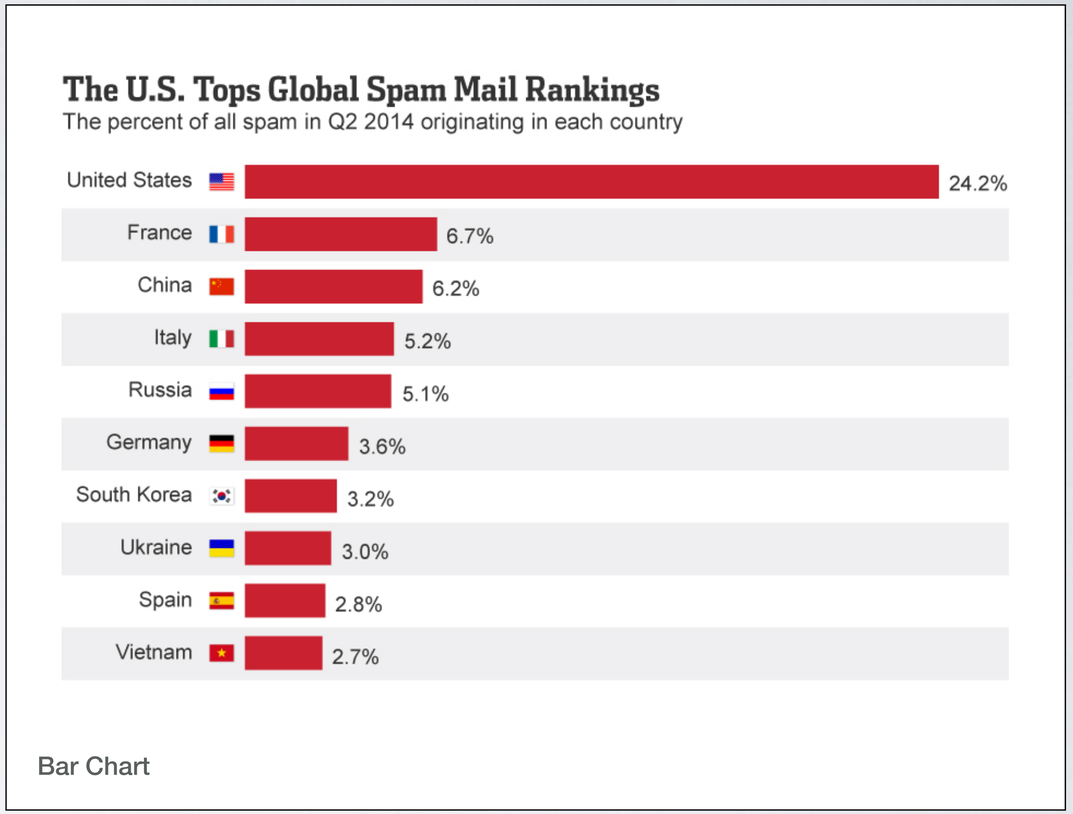
Stacked Bar Chart



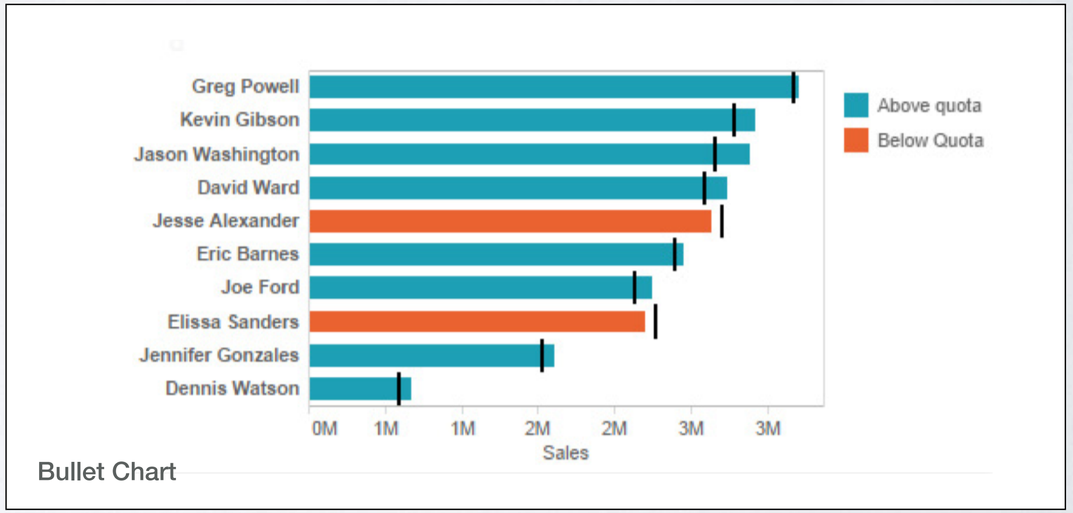
Radar/Spider Chart

Ranking Relationships

Bar charts and bullet charts are good for creating lists of hierarchal ranking because they establish a baseline for all information.



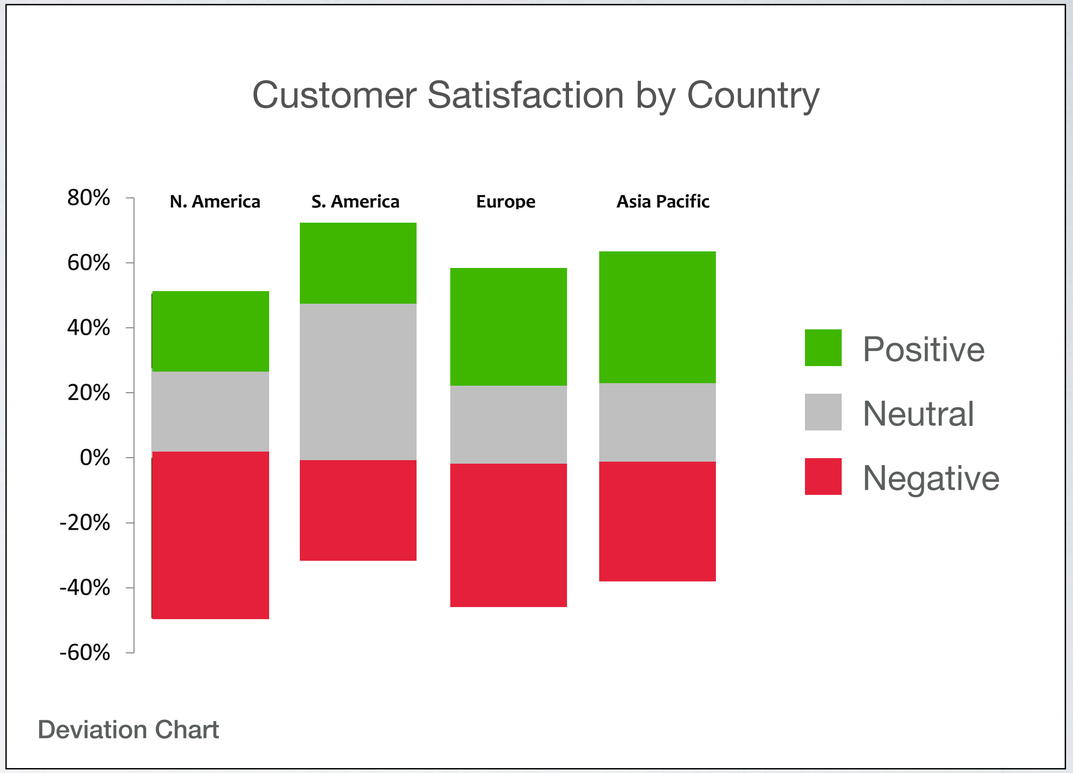
Bar Chart

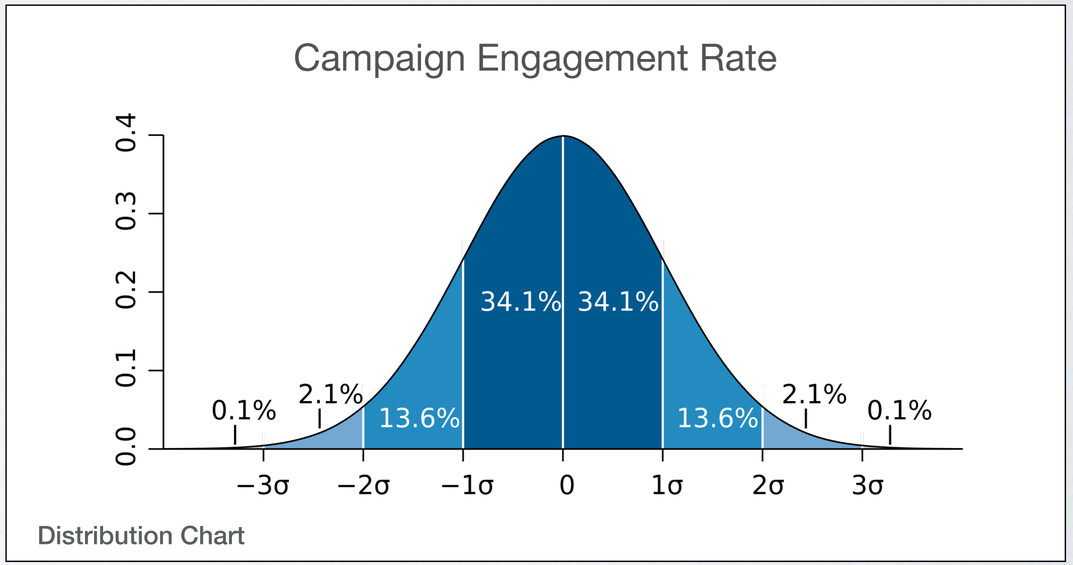


Bullet Chart

Deviation Relationships

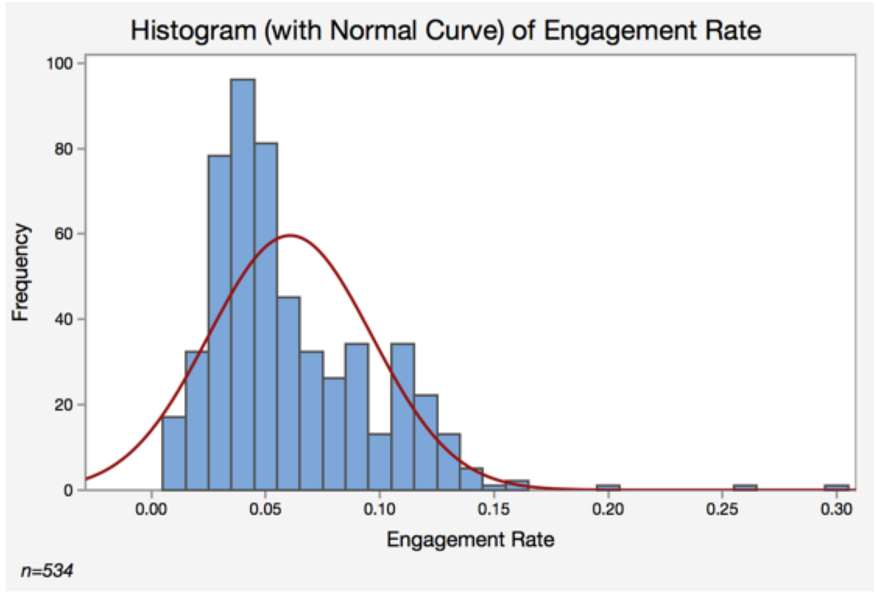
Distribution charts and deviation charts are useful when featuring how one or more sets of values differ from a reference set of values.



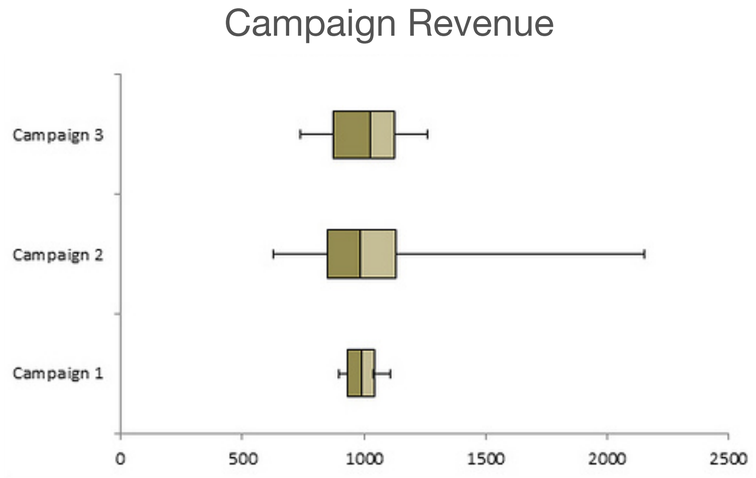


Distribution Relationships

Box Plots and histograms are good for demonstrating how a population is distributed over some variable, e.g, campaign metric, time, etc.



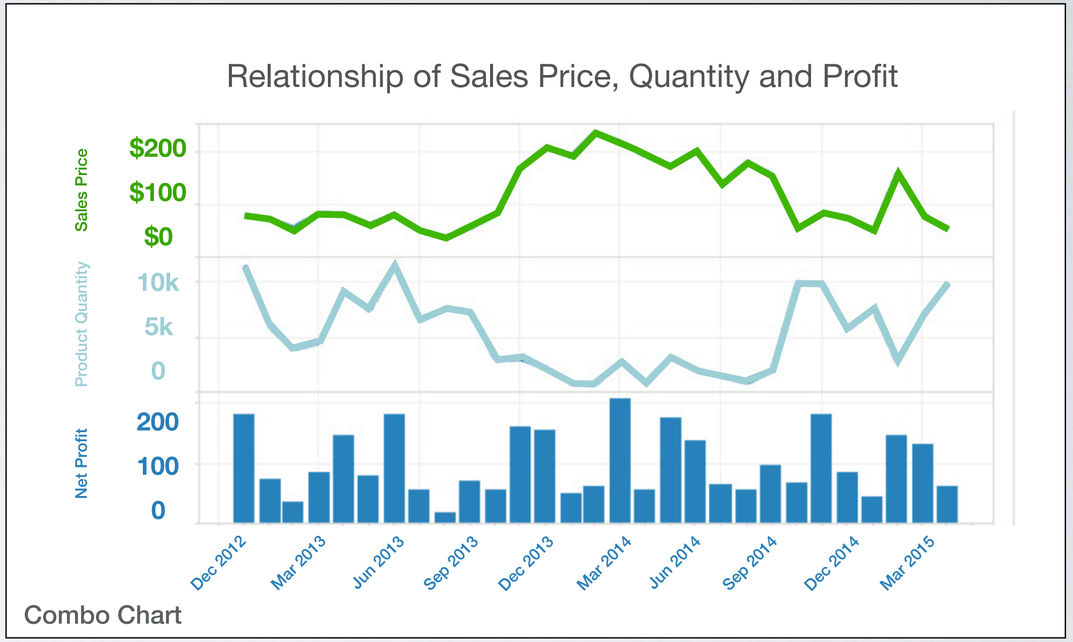
Distribution Chart



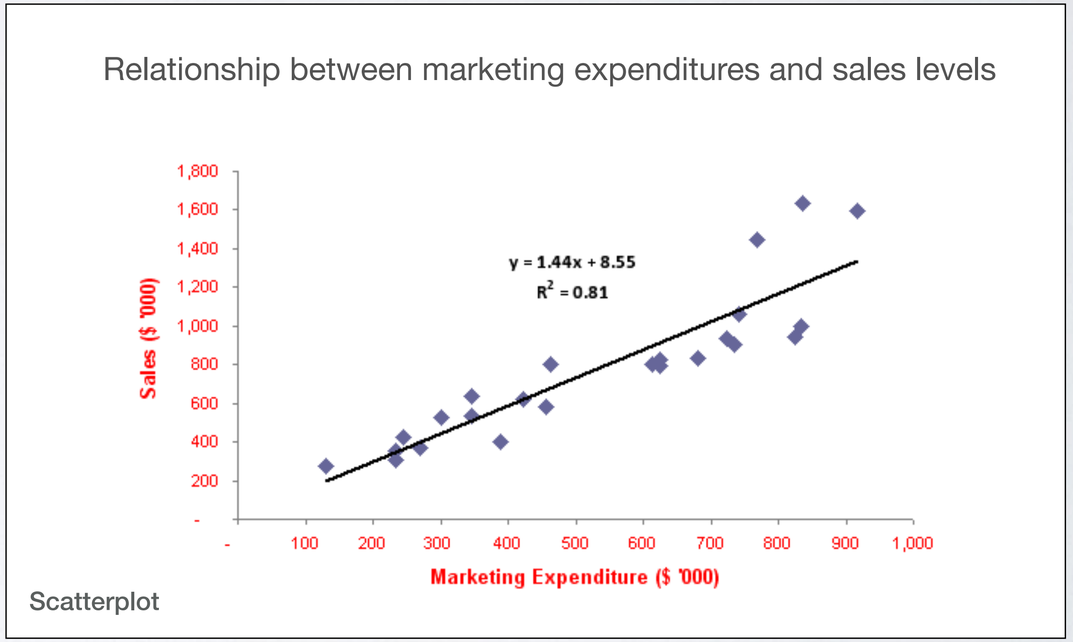
Box Plot

Correlation

Scatterplots and combo charts are perfect when dealing with multivariate data.



Combo Chart



Scatterplot

There are two uses of data visualization:
to improve your own understanding and
to aid the understanding of others.