A Brief Checklist for Data Visualization

CONTENT

- Data Visual is clear and concise.
- Data Visual is audience centric.
  - Deliver relevant information.
  - Eliminate or reduce jargon.
- Tells the story.
  - All graphs need a narrative.
  - Graphs warrant their presence.
  - Stories help the viewer understand the significance of the data.
- Data selected carefully.
  - Avoid too many to dilute the power of visualization.
  - Avoid over-generalization and absolutes with work with survey data.
- Graphs and charts used for “big” data, not little data.
  - For "little data" use words and numbers.
  - No need to recreate through visuals.
- The type of graph is appropriate for data & level of precision.
  - When precision is important - bar charts, dot plots, etc.
  - When precision is less important - pie charts, circle charts, etc.
  - Use bar charts to visualize achievement of an objective.
  - Time series for patterns or change over time.
  - If horizontal axis is a measure with a natural sequence, use line graph or scatter plot.
- Sufficient documentation provided.
  - Cite sources and authors to give credibility and integrity to your presentations.
  - Link to raw data when possible.

COLOR

- Intentional color scheme, not random.
  - Use your organization brand color template.
  - Use color schemes suitable for printing in black-and-white and for color-blindness.
- Color is used to highlight key patterns.
  - Action colors should guide the viewer to key parts of the display.
  - Less important or supporting data should be a muted color.
  - No more than 3 colors; use shading and contrast instead to highlight instead.

ARRANGEMENT

- Spatial flow is intuitive to the reader.
  - Improper arrangement of graph elements can confuse.
  - Position is the most important factor. After that comes color, size and shape.
  - Use layout to set priorities for readers.
  - Individual chart elements work together to reinforce a unified takeaway message.
  - Time is visualized as moving left to right, often in a linear fashion.
- Proportions are accurate.
  - Graphs must match the relationship in the underlying data.
  - Axes are clear and intervals are equidistant.
  - Graph is two-dimensional: avoid 3-D displays, bevels, and other distortions.
- Display is free from distractions.
  - Avoid distracting graphics and animations.
  - Avoid all components solely for decoration.
  - Know when to use logo and when to leave it out.
  - Remove chart-junk such as gridlines if they aren't useful for interpreting the data.
  - White space is desired on graphs.

LABELS & LINES

- Graphs don't contain much text.
- Descriptive title
  - Use a descriptive sentence that encapsulates the graph's finding.
  - Short and clear titles enable readers to skim the graph quickly.
  - Be precise and consistent in naming every object.
- Text is scannable.
  - Too much text can overwhelm readers.
  - Orient graph so the data and text are easiest to read.
  - Black/very dark text against a white/transparent background is easiest to read.
  - Text size is hierarchical: Titles > subtitles > labels > axis labels > source information.
  - Font size of text shouldn't be too small.
- Labels are clear and used sparingly.
  - Subtitles and call-out text for answering questions or highlighting data points.
  - Focus attention by removing the redundancy in labelling.
  - Few numeric labels need decimal places.
  - Position data labels near the data rather than in a separate legend.
  - Horizontally oriented labels are easier to read than vertically oriented labels.