

Mastering Data Visualization

Best Practices for
Chart Types

Best practices for creating an effective dashboard

To make your dashboard enthralling and appealing to the end user, you may consider the following best practices:

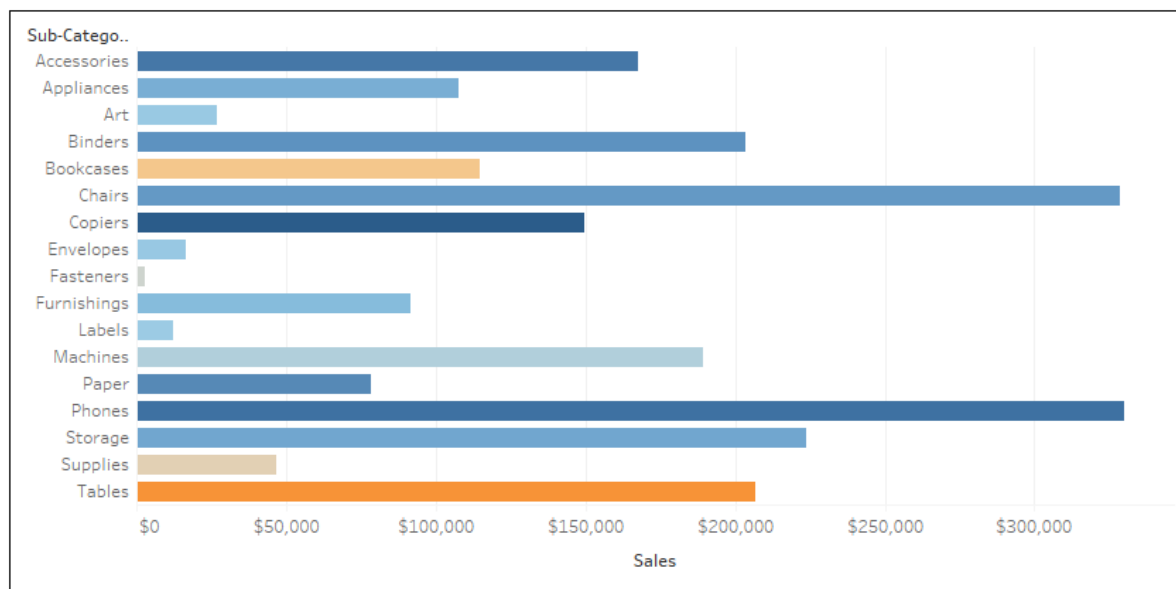
- Connect to all your data regardless of where it resides. If the required data is present in external and internal locations, centralizing your data at one location is not preferable since it will slow down the process of dashboard designing. Hence, you must connect to the data wherever it is present.
- Blend your data from multiple sources. For a comprehensive view of your data, you should join data from multiple data sets on a common field. This allows you perform analysis at a granular level.
- Include only the relevant measures. Consider the objectives of your organization before selecting a measure. The measure you choose must compel to these objectives and should build a systematic measurement.
- Choose the right visualization. For an end user, interpreting data present in a text table or spreadsheet is difficult as compared to data in presented in a visualization. For complex business queries, you must use a visualization that represents your data in the most effective way.
- Utilize mobile solutions. Mobile business intelligence allows you to access data at your convenience, whenever and wherever it is needed.
- Before making your dashboard available for end users, perform a series of testing and get feedback. While sharing your dashboard, make the accessibility easy. You may use simple browser-based distributions, so that the users can click a link that takes them right to the dashboard.

Design considerations while creating different chart types

Since there can be a plethora of ways to visualize your data, you might consider the following basic guidelines to represent your data in way that best answers your queries.

1. Consideration while creating Bar Charts

- Include multiple Bar Charts on a dashboard: It helps the viewer quickly compare related information instead of flipping through a bunch of spreadsheets or slides to answer a question.
- Add color to bars for more impact: Showing revenue performance with bars is informative, but overlaying color to reveal profitability provides immediate insight.

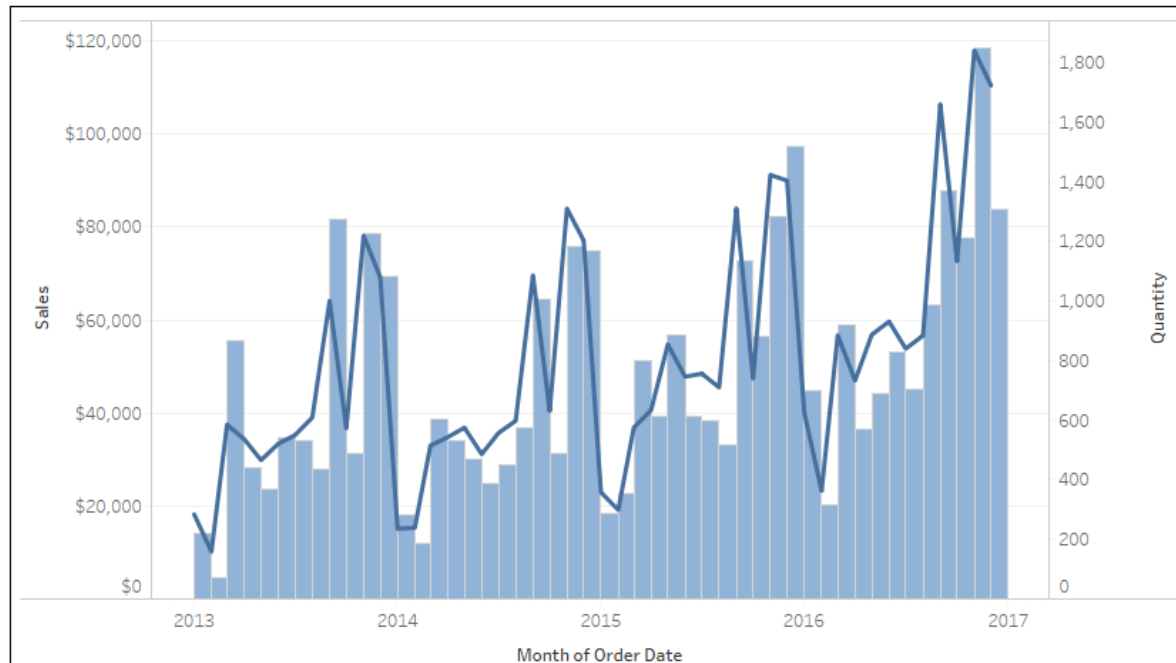


- Use stacked bars or side-by-side bars: Displaying related data on top of or next to each other gives depth to your analysis and addresses multiple questions at once.
- Combine bar charts with maps: Set the map to act as a "filter" so when you click on different regions the corresponding bar chart is displayed.

2. Considerations while creating Line Charts

- Combine a line graph with bar charts: A bar chart indicating the quantity sold per month of a given stock combined with

the line graph of the corresponding sales can provide visual queues for further investigation.



- Shade the area under lines: When you have two or more line charts, fill the space under the respective lines to create an area chart. This informs a viewer about the relative contribution that line contributes to the whole.

3. Considerations while creating Pie Chart

- Limit pie wedges to six: If you have more than six proportions to communicate, consider a bar chart. It becomes too hard to meaningfully interpret the pie pieces when the number of wedges gets too high.
- Overlay pies on map: Pies can be an interesting way to highlight geographical trends in your data. If you choose to use this technique, use pies with only a couple of wedges to keep it easy to understand.

4. Considerations while creating Area Chart

- Limit to one dimension: Area charts are best used for plotting a single dimension to avoid misunderstanding.
- Underlying performance: With an area chart, you can see the underlying performances and relative totals of the sum.

5. Considerations while creating Treemaps

- Coloring the rectangles by a category: Color the rectangles by a category different from how they are hierarchically structured.
- Combining treemaps with bar charts: In Tableau, place another dimension on Rows so that each bar in a bar chart is also a treemap. This lets you quickly compare items through the bar's length, while allowing you to see the proportional relationships within each bar.

6. Considerations while creating Histogram

- Test different groupings of data: When you are exploring your data and looking for groupings or "bins" that make sense, creating a variety of histograms can help you determine the most useful sets of data.
- Add a filter: By offering a way for the viewer to drill down into different categories of data, the histogram becomes a useful tool to explore a lot of data views quickly.

7. Considerations while creating Box-and-whisker Plot

- Hiding the points within the box: This helps a viewer focus on the outliers.
- Comparing boxplots across categorical dimensions: Boxplots are great at allowing you to quickly compare distributions between data sets.

8. Considerations while creating Bullet Graph

- Use color to illustrate achievement thresholds: Including color, such as red, yellow, green as a backdrop to the primary measure lets the viewer quickly understand how performance measures against goals.
- Add bullets to dashboards for summary insights: Combining bullets with other chart types into a dashboard supports productive discussions about where attention is needed to accomplish objectives.