Assignment2
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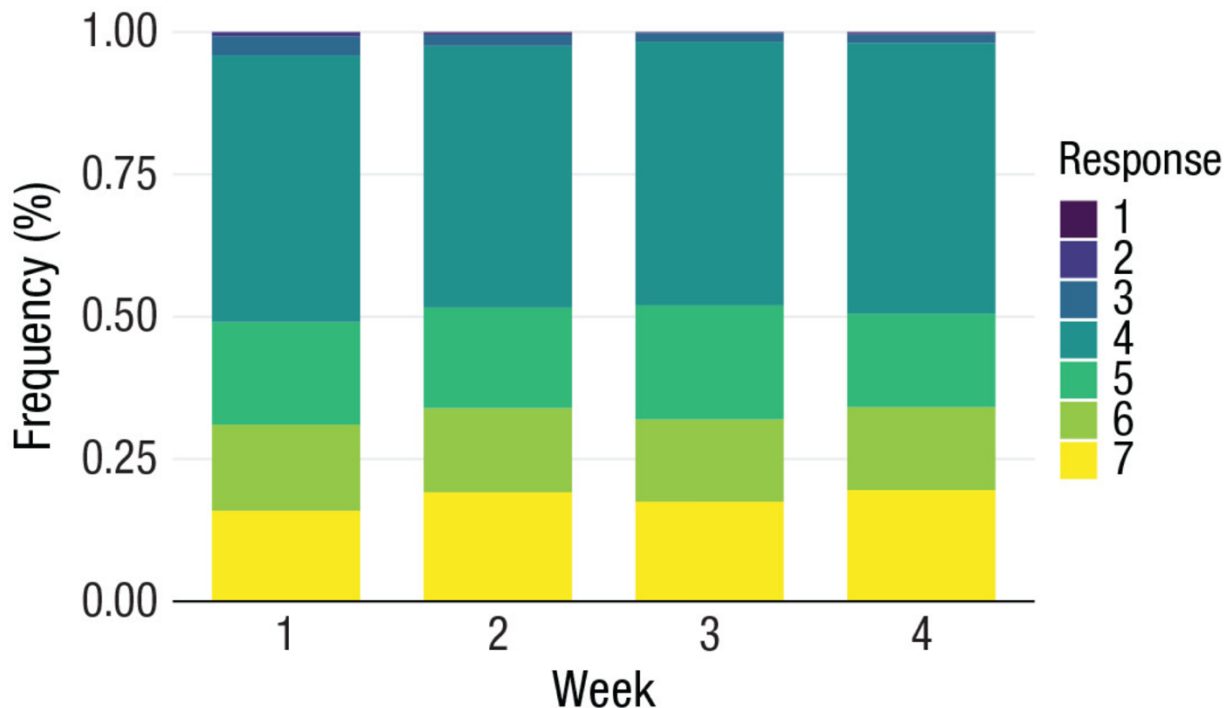
Selected bad example:



Fig. 1. Frequency (%) of responses on a Likert-type item scaled from 1 to 7 in which observations collected across four time points are compared.
Reference: https://journals.sagepub.com/doi/full/10.1177/25152459211045334

The plot is not well-designed in terms of data visualization fundamentals. Here are some reasons why this plot may be considered poorly designed or confusing for data visualization:

1. **Non-Standard Percentage Scale**: The Y-axis is scaled to 1.00% as the maximum, which is unconventional. Typically, percentage scales are in increments of 10% up to 100%, making it easier to read and understand. This scale may confuse the viewer, as it is nit immediately apparent that the scale represents such small percentages.
2. **Stacked Bar Chart Inefficiency**: Stacked bar charts can be difficult to interpret beyond the first (bottom) category because it is hard to compare the lengths of the inner segments. For example, it is not easy to visually compare the green segments across the four weeks because their starting positions are different.
3. **Missing Data Labels**: There are no data labels on the chart, so it is impossible to know the exact percentages without referring back to the original data. This makes the chart less informative at a glance.

4. **Precision vs. Necessity**: Given that the bars represent very small percentages, the decision to use a stacked bar chart for such precision data might not be necessary. A table or a different type of chart might convey the information more clearly.
5. **Potential Data Overload**: Stacked bar charts can often lead to information overload, especially when there are many categories, as is the case here with seven different response types. This can overwhelm the viewer and make it difficult to draw insights from the chart.

Improving this visualization might involve choosing a different type of chart (like a line chart for trends over time), simplifying the color scheme, adding a clear title and labels, and using a more conventional scale for the Y-axis.
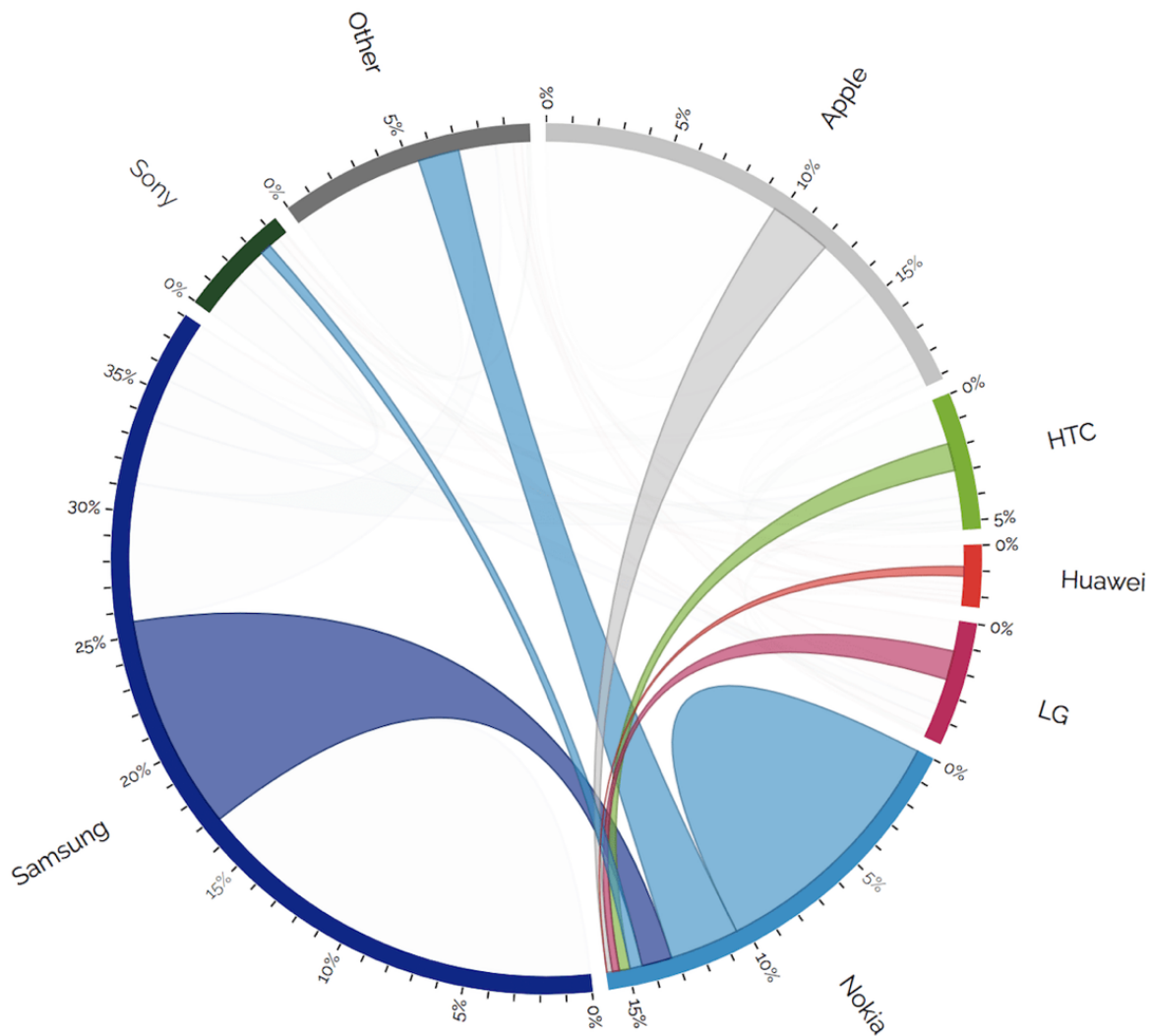
Selected good example:

Fig. 2. Switching between phone brands
Reference: https://www.dataviz-inspiration.com

Here are reasons why this plot could be considered a good data visualization example:
1. **Inter-relationship Representation**: Chord diagrams are particularly effective at displaying the relationships between different entities. In this case, the plot shows the transitions between various smartphone brands.
2. **Efficient Use of Space**: The circular layout allows for a lot of information to be displayed in a compact form. The plot can show a large number of entities (brands) and their interconnections without becoming as cluttered as it might in a different format.
3. **Visual Appeal**: The curved lines can be aesthetically pleasing and draw the viewer's attention to the flow of the relationships.

4. **Quantitative and Qualitative Information**: The thickness of the chords typically represents the magnitude of flow or relationship between the entities. This allows for quantitative analysis at a glance, showing which relationships are most significant.
5. **Color Coding**: The use of distinct colors for each entity (brand) helps in distinguishing the flows and makes it easy to trace the relationships from one end to the other.
6. **Balance Between Detail and Overview**: The diagram provides a balance between giving an overall picture of the system (all smartphone brands and their interconnections) and providing details (specific connections between brands).
7. **Comparative Analysis**: By comparing the size of the arcs, one can assess the relative magnitude of each entity within the system. For instance, larger arcs indicate larger market shares or more significant entities within the system.

To put it in a nut shell, a chord diagram is a good data visualization when the goal is to illustrate complex relationships in an integrated, clear, and visually compelling manner.