

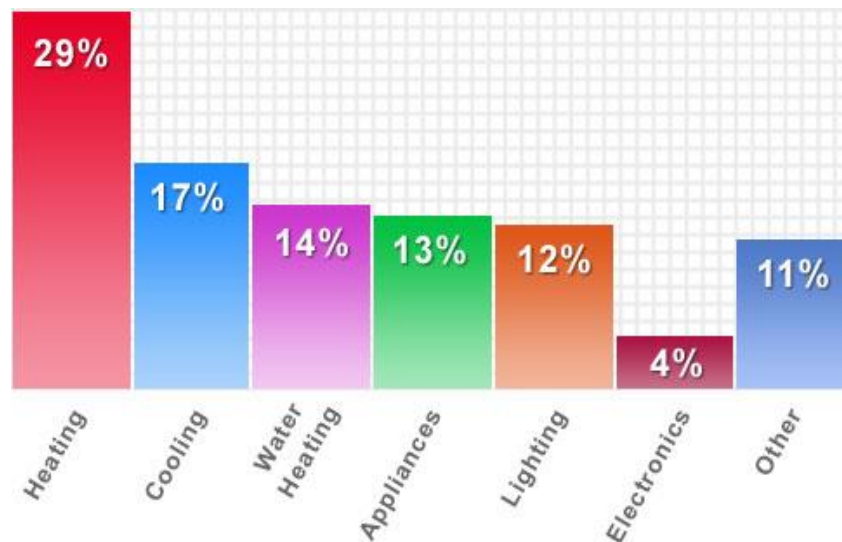
Handout 5

Bar Chart / Bar Graph

What is a Bar Chart?

A bar chart is a graph with rectangular bars. The graph usually compares different categories. Although the graphs can be plotted vertically (bars standing up) or horizontally (bars laying flat from left to right), the most usual type of bar graph is vertical.

The horizontal (x) axis represents the categories; The vertical (y) axis represents a value for those categories. In the graph below, the values are percentages.



A bar graph is useful for looking at a set of data and making comparisons. For example, it's easier to see which items are taking the largest chunk of your budget by glancing at the above chart rather than looking at a string of numbers.

Bar charts can also represent more **complex categories** with stacked bar charts or grouped bar charts. For example, if you had two houses and needed budgets for each, you could plot them on the same x-axis with a grouped bar chart, using different colors to represent each house.

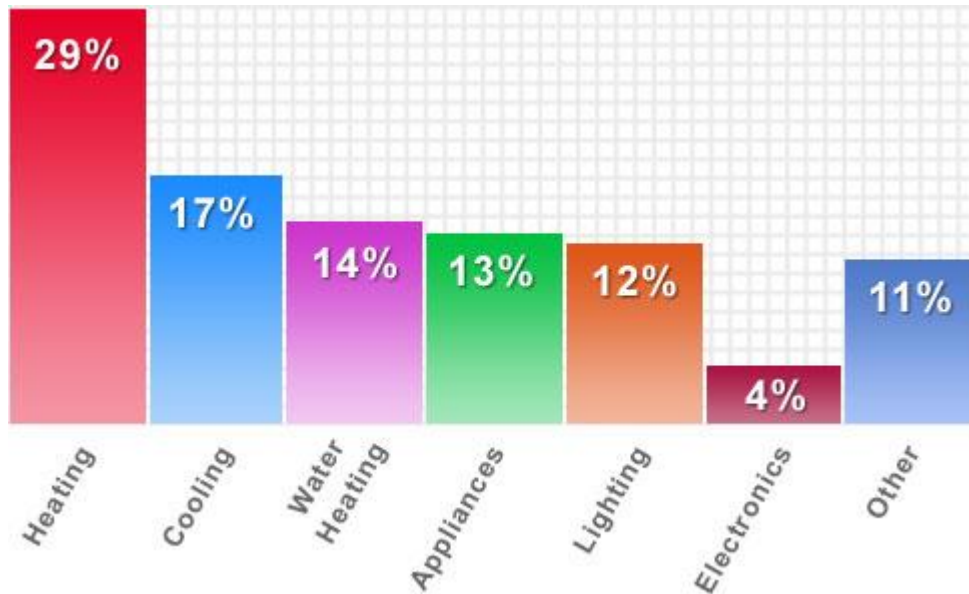
Difference between a Histogram and a Bar Chart

Although they look the same, bar charts and histograms have one important difference: **they plot different types of data**. Plot discrete data on a bar chart, and plot continuous data on a histogram (*What's the difference between discrete and continuous data?*).

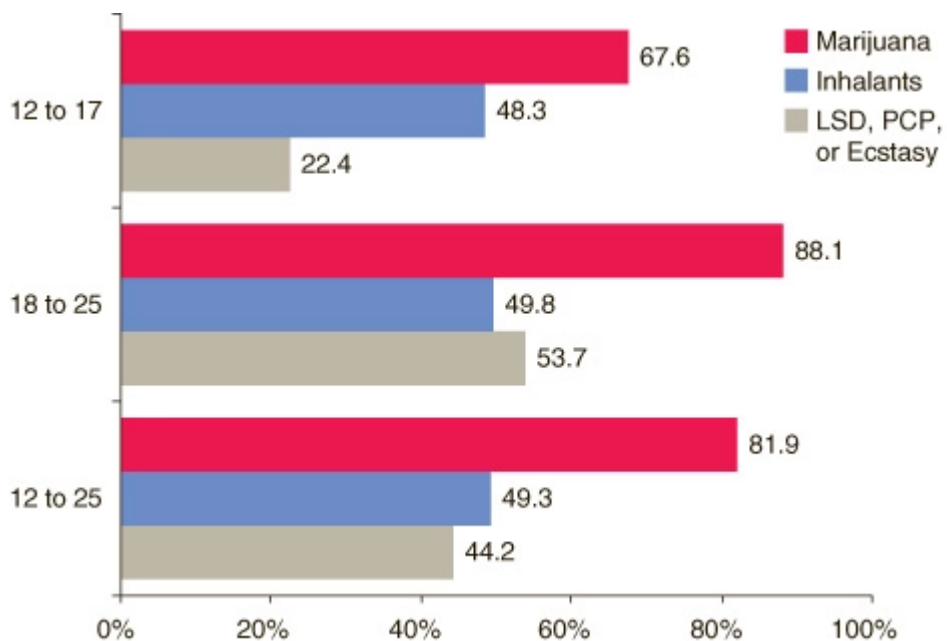
A bar chart is used for when you have **categories of data**: Types of movies, music genres, or dog breeds. It's also a good choice when you want to compare things between different groups. You *could* use a bar graph if you want to track change over time as long as the changes are significant (for example, decades or centuries). If you have **continuous data**, like people's weights or IQ scores, a histogram is best.

Bar Graph Examples (Different Types)

A bar graph compares different categories. The bars can be vertical or horizontal. It doesn't matter which type you use—it's a matter of choice.



A bar chart with vertical bars. Categories are on the x-axis.

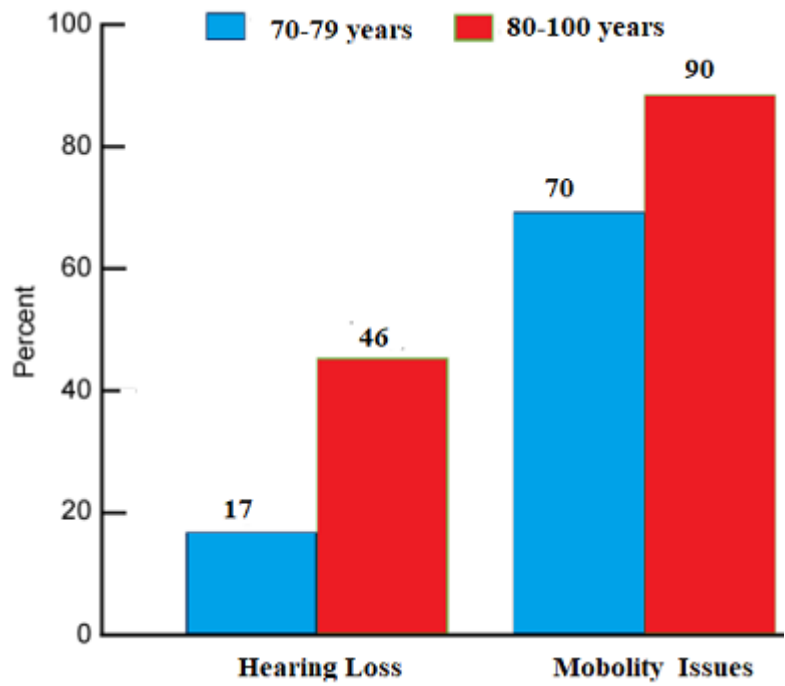


Bar chart with horizontal bars. Categories are on the y-axis. Image: SAMHSA.gov.

List of Types

1. Grouped Bar Graph

A grouped bar graph is a way to show information about sub-groups of the main categories.



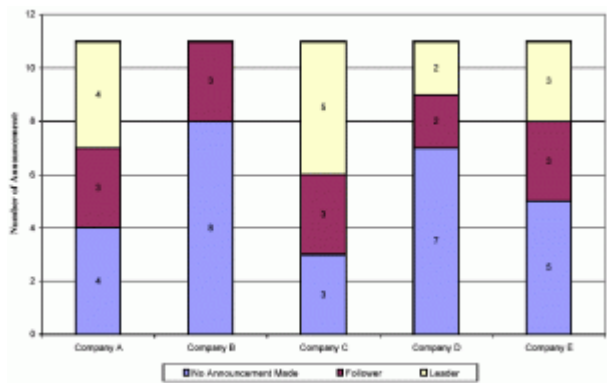
In the above image, the categories are issues that senior citizens face (hearing loss and mobility issues); the sub-groups are age. A separate colored bar represents each sub-group: blue for age 70-79 and red for age 80-100.

A key or legend is usually included to let you know what each sub-category is. Like regular bar charts, grouped bar charts can also be drawn with horizontal bars.

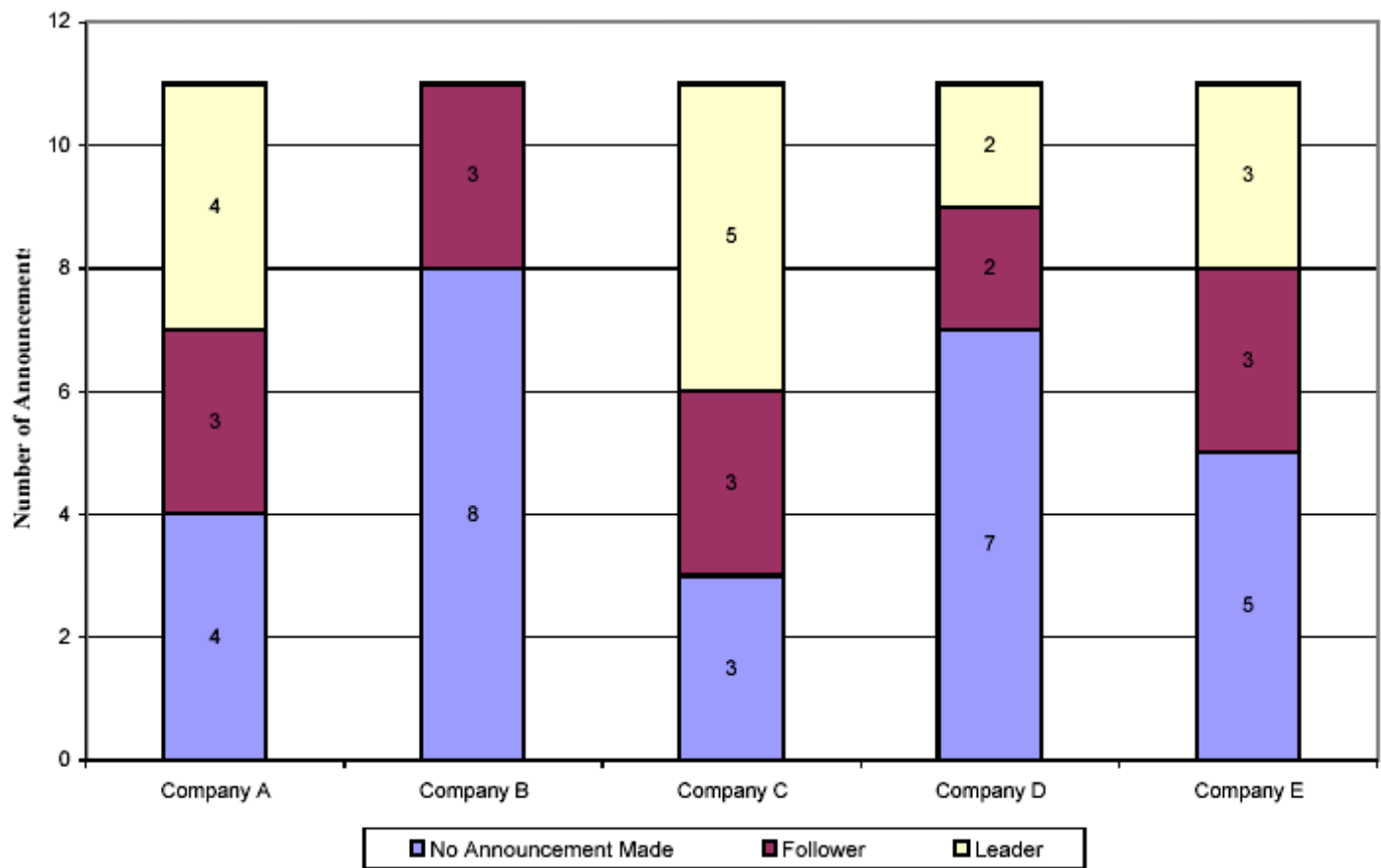
When there are only two sub-groups (as in the above image), the graph is called a **double bar graph**. It's possible to have as many sub-groups as you like, although too many can make the graph look cluttered.

2. Stacked Bar Chart

A stacked bar chart also shows sub-groups, but the sub-groups are stacked on the same bar.



Stacked bar chart showing list price change announcements by company. Each bar shows the total for sub-groups within each individual category.



Stacked bar chart showing list price change announcements by company.