



PARETO CHART

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The **Seven Basic Tools of Quality** is a designation given to a fixed set of graphical techniques identified as being most helpful in troubleshooting issues related to quality. They are called basic because they are suitable for people with little formal training in statistics and because they can be used to solve majority of quality-related issues.

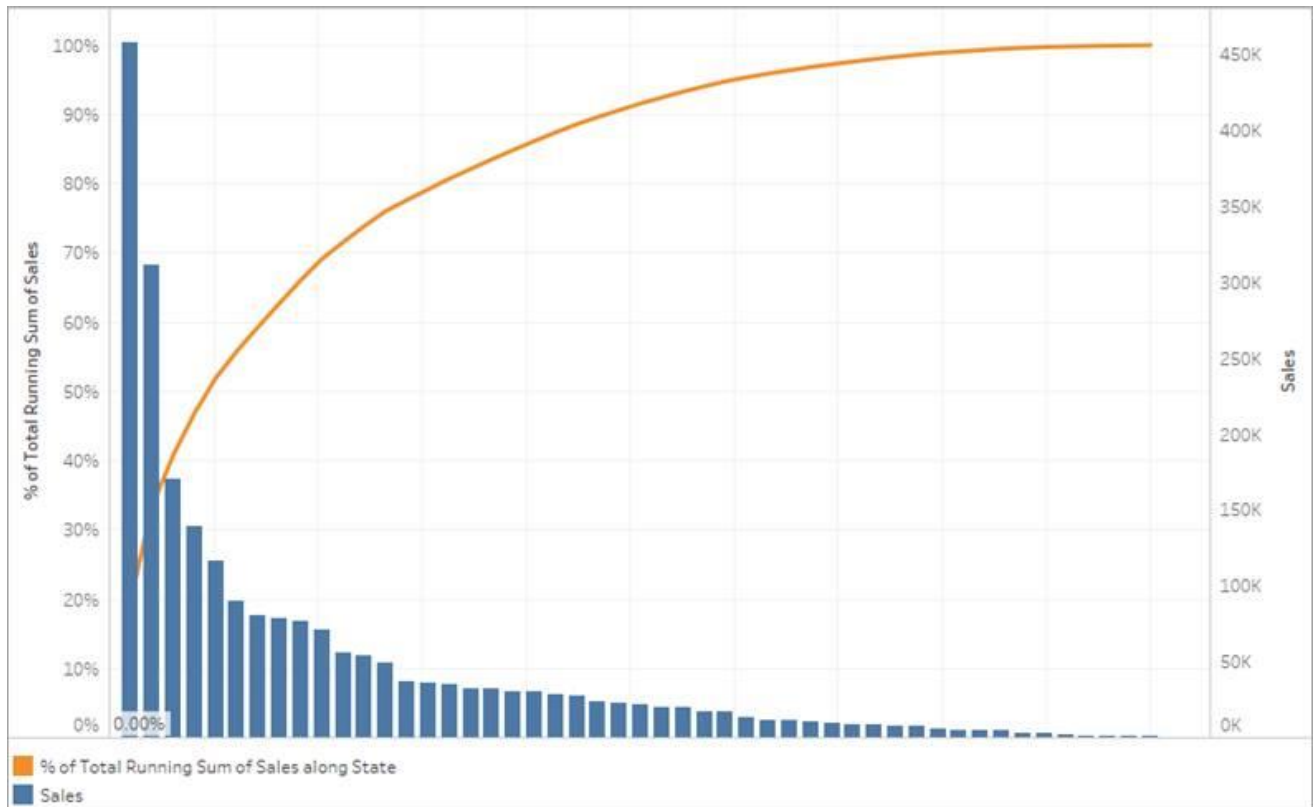
The seven tools are:

- Pareto chart
- Cause-and-effect diagram (also known as the "fishbone" or Ishikawa diagram)
- Check sheet
- Control chart
- Histogram
- Scatter diagram
- Stratification (alternately, flow chart or run chart)

(Source: https://en.wikipedia.org/wiki/Seven_Basic_Tools_of_Quality)

Let us explore Pareto charts. A Pareto chart, named after **Vilfredo Pareto**, is a type of chart that contains both **bars and a line graph**, where individual values are represented in descending order by bars, and the cumulative total is represented by the line.

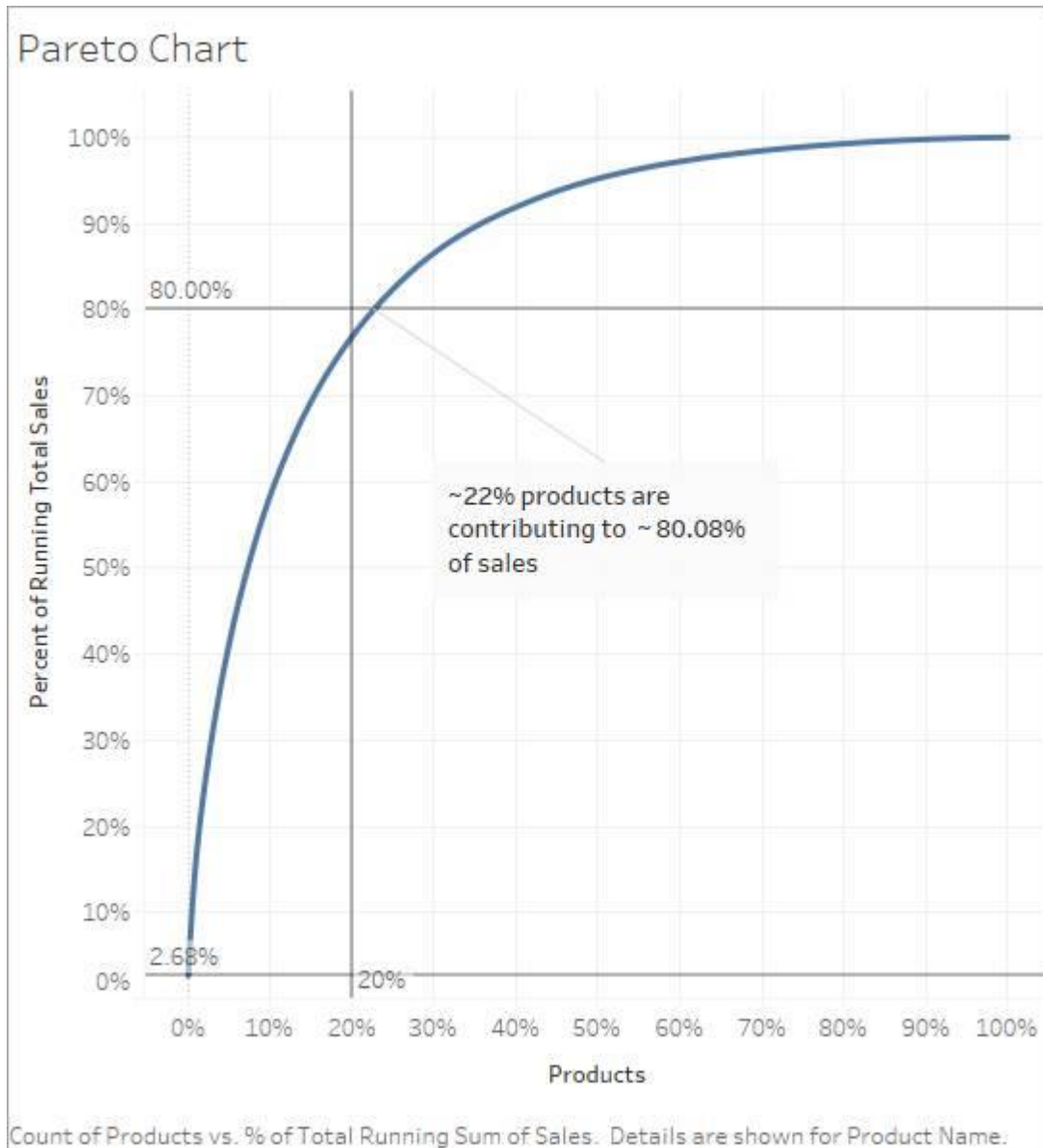
Example of Pareto chart: Here the bar chart represents Sum of Sales for a State and line chart is the Percent of running total Sales



The basis of the Pareto chart is the **Pareto Principle** (also known as the 80/20 rule, the law of the vital few, or the principle of factor sparsity) which states that, for many events, roughly 80% of the effects come from 20% of the causes

It is a common rule of thumb in business; e.g., "**80% of your sales come from 20% of your clients.**"

Count of Products vs Percent of Running Total Sum Sales (~20% Products contribute to ~80% Sales)



Applications:

- To analyze data about the frequency of problems or causes in a process.
- When there are many problems or causes and you want to focus on the most significant.
- When analyzing broad causes by looking at their specific components.

Count of Customers vs Percent of Running Total Sum Profit (~20% Customers contribute to ~80% Profit)

