Using Pareto Charts

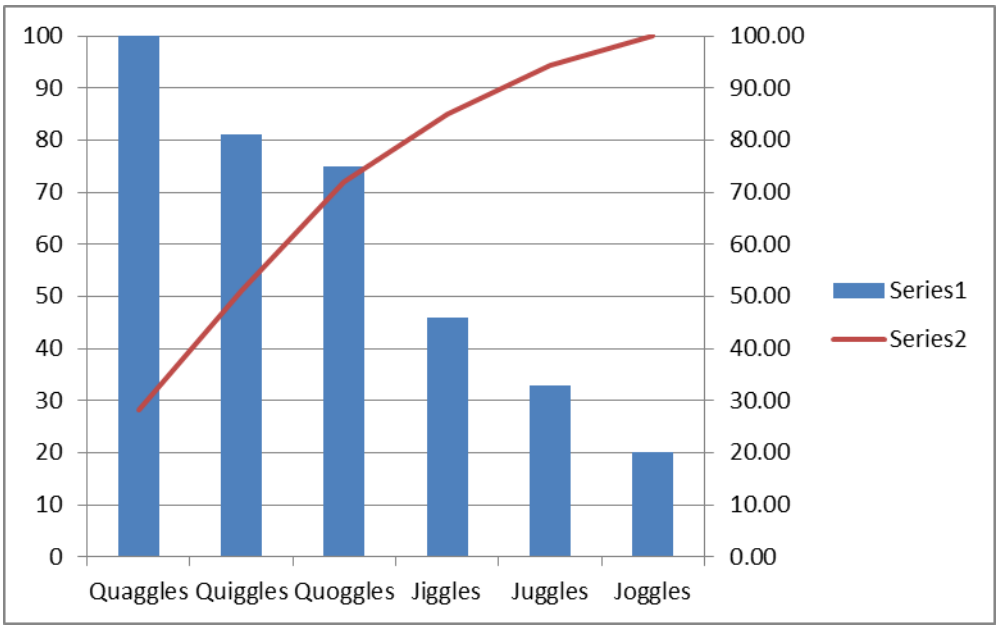
Pareto charts are a graphical representation of the so-called Pareto Principle or 80/20 rule. This rule suggests something like "20% of the people make 80% of the money" and similar statements. A more scientific statement of a similar effect is called Zipf's law, which has been used to assess frequencies in language, but which has much more general application. The purpose of these approaches is always to separate what appears to be significant from those items that merit much less consideration.

Most of the time, we will plot what we call "count" data. Count data occurs when we have some attribute and we calculate how many we have with that attribute. In some other cases, for example, when we plot monetary value, we may have variables data (with a decimal point). The type of problem will drive the type of measurement. Neither type is off limits when using this tool.

Here is an invented set of data:

Quaggles	100	28.17
Quiggles	81	50.99
Quoggles	75	72.11
Jiggles	46	85.07
Juggles	33	94.37
Joggles	20	100.00

We plot the data in sorted ordered from highest to lowest values:



As we can see, the “break” point in the graph (80%) include the quaggles, the quiggles, the quoggles, but not the rest of the data. If these were real parts, we would focus our efforts on the “q” words so that we have the greatest leverage on improving our situation.

Another option occurs if we are looking at returned parts and we create a Pareto chart by cost of returned parts. We may see the nature of the problem shift as we look at the probable cost to our customer. Our recommendation at Value Transformation LLC is that we look at both charts and see which one makes more sense for troubleshooting.

What are some challenges with this chart?

- We may overlook at lesser issue which is important to a customer
- We may accentuate issues that really are not that important
- We need to have customer input to ensure our numerical priorities align with their sensations of dissatisfaction

What are some benefits to this chart?

- Quick, intelligible representation of priorities
- Easy to explain to customers, suppliers, and management
- Spreadsheet amenable
- Generally well understood

Resources:

Ishikawa, Kaoru. *Introduction to Quality Control*. Productivity Press, 1990.