Tools

Pareto Diagram

Focusing on Key Problems

Background

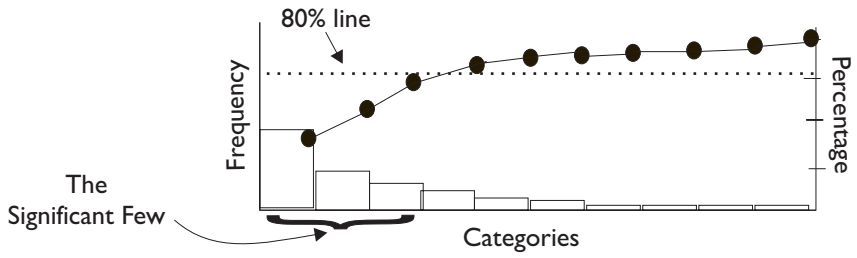
The Pareto diagram is a simple bar chart that ranks related measures in decreasing order of occurrence. The purpose of the diagram is to separate the significant aspects of a problem from the trivial ones. The proven Pareto principle: 20% of the sources cause 80% of any problem.

When to Use

- When finding the cause that has the greatest potential for positive impact, if solved
- When a path is needed for solving problems: greatest impact to lesser impact

How to Use

1. Determine the problem. Write it as a statement.
2. Select logical categories for the identified problem. (Data can be divided into categories by time, location, type, or symptom.) Note: Brainstorming or actual data can be used.
3. Choose the most meaningful unit of measure--frequency or cost.
4. Select the time period for the study.
5. Collect the data. Construct a frequency table from the data. List the categories in decreasing rank order by frequency.
7. Calculate the cumulative frequency for each category (the number of occurrences in the category plus all frequencies in categories above it).
8. Create a chart: horizontal axis with scale (divided into equal parts, same number as there are categories--all the same width) and vertical axis with left scale (frequency) and right scale (divided into four equal sections labeled 25%, 50%, 75% and 100%).
9. Label the bars for each category (horizontal axis), label the frequency scale (left vertical axis), and label the percentage scale (right vertical axis).
10. Draw bars and the cumulative frequency line based on the data.
11. Review the data. Identify categories that are significant compared to those that are trivial. Note: You may find that the significant few categories make up approximately 80% of the data.



Next Steps

Focus planning and implementation on the significant few.