

# AMS IN FOCUS

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## Tools of Basic Problem Solving: Pareto Charts and Process Maps

WHAT



HOW



WHO



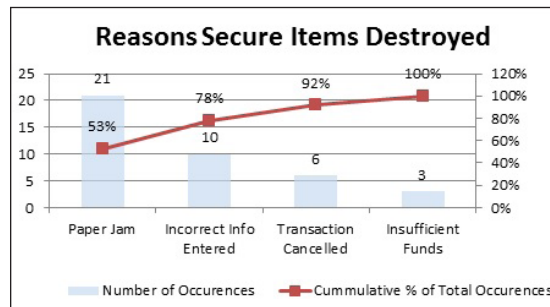
WHY



The Arizona Management System (AMS) is transforming how our state government thinks and does business by enabling employees to track performance and surface problems so they can be fixed with discipline by deploying countermeasures for sustainable progress.

When there are many problems or potential causes, we always want to focus on the most significant because solving these will yield the most benefit.

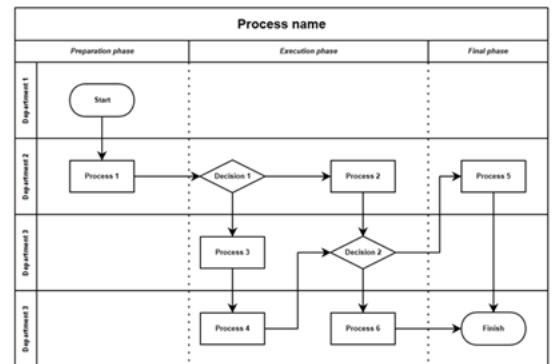
A **Pareto chart** is a basic problem solving tool that helps identify the most frequent defects, complaints or other factors you can count and categorize. The chart is named for Italian economist Vilfredo Pareto, originator of the “80/20 rule,” which postulates that roughly 80% of effects (problems) come from 20% of the causes.



An example of a Pareto chart

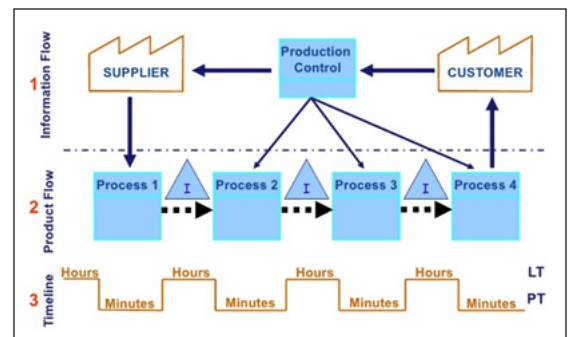
A Pareto chart contains columns sorted in descending order from left to right and a line representing the cumulative total percentage. Frequency (number of occurrences) is plotted on the y-axis and causes on the x-axis. To draw the cumulative sum line, find the percentage of occurrences in each category, then add the percentage of the first and second bar and put a dot on the second bar. Next, add the percentage of the third bar and put a dot on the third bar, and so forth until all bars are covered. Then connect the dots. All of them together should equal 100% on the far right.

**Process maps** are another tool teams use to expose waste in their systems and processes. A process map is a diagram that depicts the elements of workflow often using time, people and equipment to illustrate tasks and results. The types of process maps vary in sophistication and purpose.



An example of a swim lane map, a type of process map

A **value stream map** is the most sophisticated form of process map you are likely to use, and it typically is best applied for processes with suspected high levels of waste. It is useful when analyzing the current state and designing future state for the series of events that take a product or service from its beginning across the entire value stream through to the end user.



An example of a value stream map