

# Quality Tools eLearning | Histogram, Control Chart, Pareto Diagram Training

Quality Tools - WXQS305-XX01XEN-E3

Objective 8: Define Pareto Analysis

### Purpose of Pareto Analysis

Obviously, the problem that occurs most often or costs you the most money should get attention first.

The Pareto Principle states that 80% of the problems encountered are created by only 20% of the contributing causes.

Making a Pareto analysis will allow the separation of the vital few causes from the trivial many.

Focusing on the vital few will yield the best return on the dollar when improving a process, because those items that will have the greatest impact will be the ones focused upon.

Issue	Frequency	Cumulative Percentage (%)
Paint Scratch	80	45
Dent	75	80
Engine	15	85
Body Fit	10	90
Electrical	8	95
A/C	5	98
Interior	2	100

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Page 27 of 74

## eLearning Course: MXQS305

The Quality Tools eLearning course focuses on seven types of tools. The seven Quality Tools are formed by combining five tools from the Plan-Do-Check-Act cycle with two tools from Statistical Process Control. The seven Quality Tools are: Histogram; Control Charts; Cause and Effect Diagram; Pareto Diagram; Check Sheet; Scatter Diagram; and Flow Chart.

## Teach the Seven Quality Tools

### What Do the Seven Quality Tools Do?

In the PDCA cycle, five other tools are used in addition to SPC tools. These five tools, combined with the two SPC tools, are the seven quality tools.

- **Histogram (SPC Tool)** - A histogram is a graphic that uses statistical methods to show how data is distributed across its range. It is essentially a photograph of a group of parts in a manufacturing process.
- **Control Charts (SPC Tool)** - A control chart is a statistical tool that monitors a process by displaying the measured values of a variable over time. It shows both sudden changes and trends.
- **Cause and Effect Diagram** - A cause and effect diagram is a method of finding potential causes of a problem that may be used to address customer quality issues. This pictorial diagram, often called a fishbone diagram, groups the possible causes of a problem into categories.
- **Pareto Diagram** - A Pareto diagram is a type of graph that shows the types of causes that resulted in a defective product and how often each type of cause occurred. It is used during the check phase to decide which causes of a problem or which problem should be worked on first.
- **Check Sheet** - The check sheet is used to record data during the "Do" phase of the PDCA cycle.

- **Scatter Diagram** - A scatter diagram shows how one variable of a process varies with another variable. The diagram consists of a plot on which each data point is represented as a dot at the x,y position on a coordinate grid corresponding to the measure values for the two variables.
- **Flow Chart** - A flow chart is a picture of a process that shows the main steps, branches, and eventual outcomes of the process. It is used in both the "Plan" and "Check" phases to help see where sources of a problem lie and what data to measure.

## **Interactive eLearning**

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### **Quality Tools eLearning Features Engaging Multimedia Curriculum**

Amatrol's unmatched multimedia utilizes text, audio, and stunning 3D animations that engage learners in theoretical knowledge and concepts. This thorough, exceptionally detailed [curriculum](#) is built to begin with the basics and steadily advance to more complex concepts. Through partnerships with key industry leaders and leading edge educators, Amatrol developed the right balance of knowledge needed to train learners to work in their chosen field.

## **Additional Info**

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### **Requires:**

- Computer [\(see Computer Requirements\)](#)

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