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Demo: Creating Sorted Bar Charts and Pareto Plots

In this video, we show how to create a Pareto plot using the EngineDefect 2 data.

Pareto plots are used to identify the biggest issues or opportunities. The data table includes data about 21 engine defect categories. For each defect, a count of the number of times the defect occurred was recorded.

First, let's create a bar chart of engine defects. To do this, we use Graph Builder from the Graph menu. We drag Defect to the X zone and click the bar chart icon. Then we drag Count to the Freq field.

To label the bars, we select Label by Values from the Label drop-down menu in the control panel. We see that the two biggest issues are Starter and End Play.

This is easier to see when we sort the defects in descending order of occurrence. To do this, we right-click the X axis and select Order By and then Count, Descending.

Now, let's create a Pareto plot. A Pareto plot is basically a sorted bar chart, with a cumulative percentage curve to help you identify the biggest issues.

To create a Pareto plot, we select Pareto Plot from Analyze, Quality and Process. We select Defect as Y, Cause, and Count as the Freq column. The Pareto plot is automatically sorted in descending order of occurrence.

You can see that there are two categories that have a relatively high frequency of occurrence. You can also see that there are many defect categories with very low frequencies.

We can combine these into one bar to make it easier to identify the biggest issues. To do this, we right-click on the graph and select Causes and then Combine Causes. We'll combine the last 12 defects. These defects occurred fewer than five times. These causes are now combined into one bar labeled 12 Others.

There are many options under the top red triangle that enable us to customize the Pareto plot. For example, we might want to label the cumulative percentage points.

To do this, we select Label Cum Percent Points from the red triangle. We can see that the top four defect categories account for more than 76% of the defects that have occurred, and the top five categories account for more than 81% of all of the defects.

If you want to reduce engine defects, this information can help you prioritize which issues to address first.

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