What is the difference between a Pareto chart and a histogram?

Authored by

stats writer

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A Pareto chart and a histogram are both graphical representations used to analyze data and identify patterns or trends. However, there are distinct differences between the two.

A Pareto chart displays data in descending order of frequency or importance, with a bar graph on the left axis and a line graph on the right axis. This allows for quick identification of the most significant factors contributing to a problem or situation. On the other hand, a histogram presents data in a bar graph with no specific order, displaying the frequency or count of data within different intervals or bins. It is used to show the distribution of data and identify any outliers or gaps.

Another major difference between the two is their purpose. A Pareto chart is used to prioritize and focus on the most influential factors, while a histogram is used to understand the overall distribution of data. Additionally, a Pareto chart is often used for problem-solving and decision-making, whereas a histogram is more commonly used for statistical analysis.

In summary, the main differences between a Pareto chart and a histogram lie in their presentation and purpose. A Pareto chart focuses on the most significant factors in a descending order, while a histogram displays the distribution of data. Both charts have unique uses and can provide valuable insights when analyzing data.

Pareto Chart vs. Histogram: What's the Difference?

Two charts that look somewhat similar are pareto charts and histograms. However, these two charts are not the same and they're each used in unique situations.

A pareto chart is a type of chart that displays quantitative *or* on the x-axis and uses bars ordered from highest to lowest frequency on the y-axis to visualize which values occur most often in a dataset.

A histogram is a type of chart that displays ranges of

quantitative data on the x-axis and uses bars to represent the frequency of values in each range.

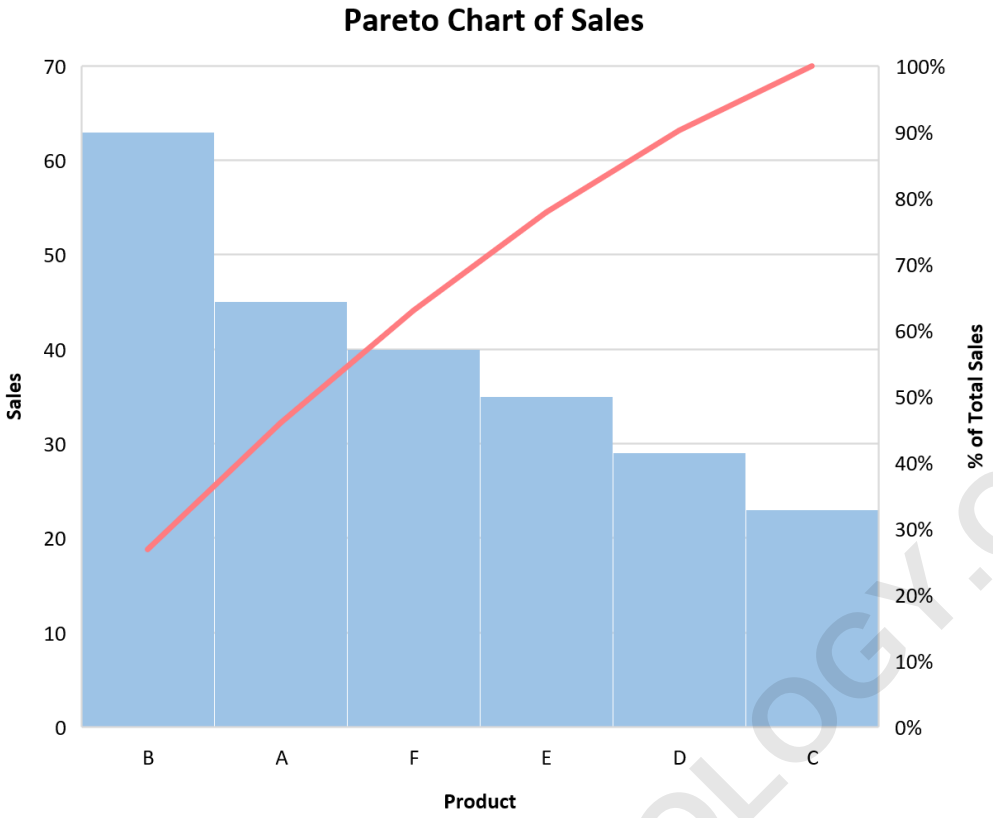
The following examples illustrate how to create and interpret each type of chart.

Example 1: Creating and Interpreting a Pareto Chart

Suppose we have the following dataset that shows the total sales of various products for a certain company:

Product	Sales
A	45
B	63
C	23
D	29
E	35
F	40

We can create the following pareto chart to visualize which products contribute most to the total sales:



From this chart we can quickly see that product B has the highest total sales, followed by product A, followed by product F, etc.

The line in the chart also displays the percentage of cumulative sales by product. Note that the percentage of total sales is shown on the right axis.

For example:

Product B accounts for roughly 25% of total salesProducts B and A account for roughly 50% of total

salesProducts B, A, and F account for roughly 65% of total sales.

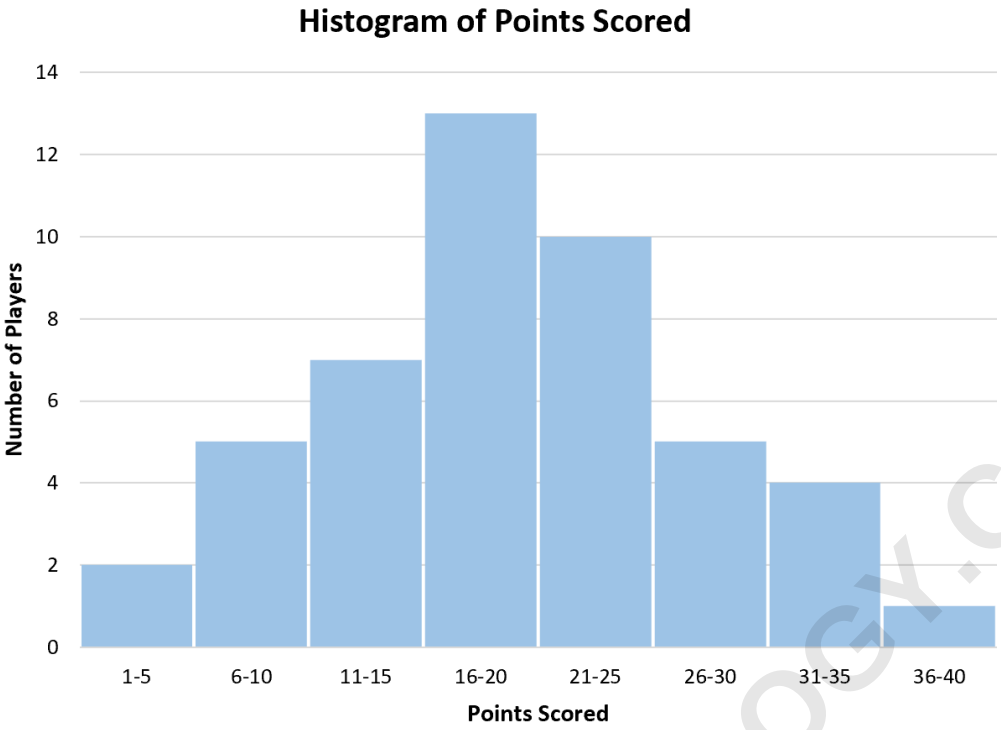
And so on.

Example 2: Creating and Interpreting a Histogram

Suppose we have the following dataset that shows the total number of points scored by various basketball players:

Points Range	Number of Players
1-5	2
6-10	5
11-15	7
16-20	13
21-25	10
26-30	5
31-35	4
36-40	1

We can create the following histogram to visualize the distribution of points scored by the players:



From the histogram we can quickly gain an understanding of the distribution of points scored.

For example, we can see that most players score between 16 and 25 points, with very few scoring less than 5 and very few scoring 36 or more.

We can also see that the distribution is roughly "bell shaped" - indicating the the distribution of points scored is roughly .

Summary: Differences Between Pareto Charts & Histograms

Here's a quick summary of the differences between

pareto charts and histograms:

Difference #1: A pareto chart can use quantitative or qualitative data on the x-axis. Conversely, a histogram can only use quantitative data on the x-axis.

Difference #2: A pareto chart orders each bar from highest to lowest frequency. Conversely, a histogram places each bar in order from smallest to largest numerical values on the x-axis.

Difference #3: A pareto chart uses a line to represent cumulative frequencies of each bar. Conversely, a histogram does not use any such line.

Both pareto charts and histograms use bars to represent frequencies, but that's about all they have in common.

Additional Resources

The following tutorials offer additional information on pareto charts:

How to Create a Pareto Chart in Python

The following tutorials offer additional information on

histograms: