Tools of the Trade:

LINE CHARTS

In "Bar Charts", we stated that a bar chart presents data in the form of bars or columns, arranged either horizontally or vertically on a scale of values.

Here, we would like to discuss the use of line charts. Line charts are a widely used type of chart and are very easy to draw. To construct this chart, the points on the scale of the graph are plotted and then the adjacent points are connected forming a continuous line. The line may be a slope or a step, depending on the type of the data and the purpose of the chart.

Line charts contain more data in a compact space than do the other types of charts. They should be used when a large number of points are to be plotted, when several series are being compared, or when emphasis is on movement and not on actual amounts.

A time series of data points (for days of the week, months of the year, or the last several years) is probably the most common use for line charts. Actual numbers or rates can be charted to provide a running total or average. Plotting percentage differences (from a set goal or standard) over time provides an indication and trend line of success or failure.

Multiple lines can be plotted to provide comparison and trends of two data values over the same time period. However, it is not recommended to plot more than four or five lines on a chart, especially if the different data points for the lines are close in value.

The selection of the range of the scale on the Y axis (on the left side of the chart) is very important. Excessive range minimizes differences in the data and wastes space. Too small of a range may result in an exaggerated picture of the differences. PC software graphics packages automatically assign a scale. However, if you do not like the range assigned by the software, there are usually options that allow you to change the range.

See also "Arithmetic vs. Logarithmic Line Charts" for more information on using line charts.

An example of a multiple line chart follows:

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