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STATISTIC GRAPHS,
HOW TO FIGURE THE SCALE

A graph is not informative if its vertical scale results in graph line changes that are too small. It is not possible to draw the graph at all if the line changes are too large.

If the ups and downs are not plainly visible on a graph then those interpreting the graph make errors. What is shown as a flat looking line really should be a mountain range.

By SCALE is meant the number of anything per vertical inch of graph.

The way to do a scale is as follows:

Scale is different for every statistic.

- (1) Determine the lowest amount one expects a particular statistic to go - this is not always zero.
- (2) Determine the highest amount one can believe the statistic will go on the next three months.
- (3) Subtract (1) from (2).
- (4) Proportion the vertical divisions as per (3).

Your scale will then be quite real and show up its rises and falls.

Here is an incorrect example.

We take an org that runs at £500 per week. We proportion the vertical marks of the graph paper of which there are 100 so each one represents £100. This when graphed will show a low line, quite flat, no matter what the org income is doing and so draws no attention from executives when it rises and dives.

This is the correct way to do it for gross income for an org averaging £500/week.

(1) Looking over the old graphs of the past 6 months we find it never went under £240. So we take £200 as the lowest point of the graph paper.

(2) We estimate this org should get up to £1,200 on occasion in the next 3 months so we take this as the top of the graph paper.

(3) We subtract £200 from £1,200 and we have £1,000.

(4) We take the 100 blocks of vertical and make each one £10, starting with £200 as the lowest mark.

Now we plot gross income as £10 per graph division.

This will look right, show falls and rises very clearly and so will be of use to executives in interpretation.

Try to use easily computed units like 5, 10, 25, 50, 100, and show the scale itself on the graph. (1 div = 25.)

The element of hope can enter too strongly into a graph. One need not figure a scale for more than one graph at a time. If you go onto a new piece of graph paper, figure the scale all out again and as the org rises in activity sheet by sheet the scale can be accommodated. For example it took 18 months to get Saint Hill statistics up by a factor of 5 (5 times the income, etc) and that's several pieces of graph paper, so don't let scale do more than represent current expectancy.

On horizontal time scale, try not to exceed 3 months as one can get that scale too condensed too, and also too spread out where it again looks like a flat line and misinforms.

Correct scaling is the essence of good graphing.

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