

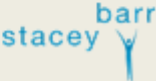


Your notes:

In Lesson 2...

- How to **interpret** Smart Chart signals
- The **rules** to define the signals
- When and how to **recalculate** your KPI “baseline”

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How to Get the Truth Out of Your KPIs **USING SMART CHARTS**

Your notes:

Interpreting Smart Chart signals

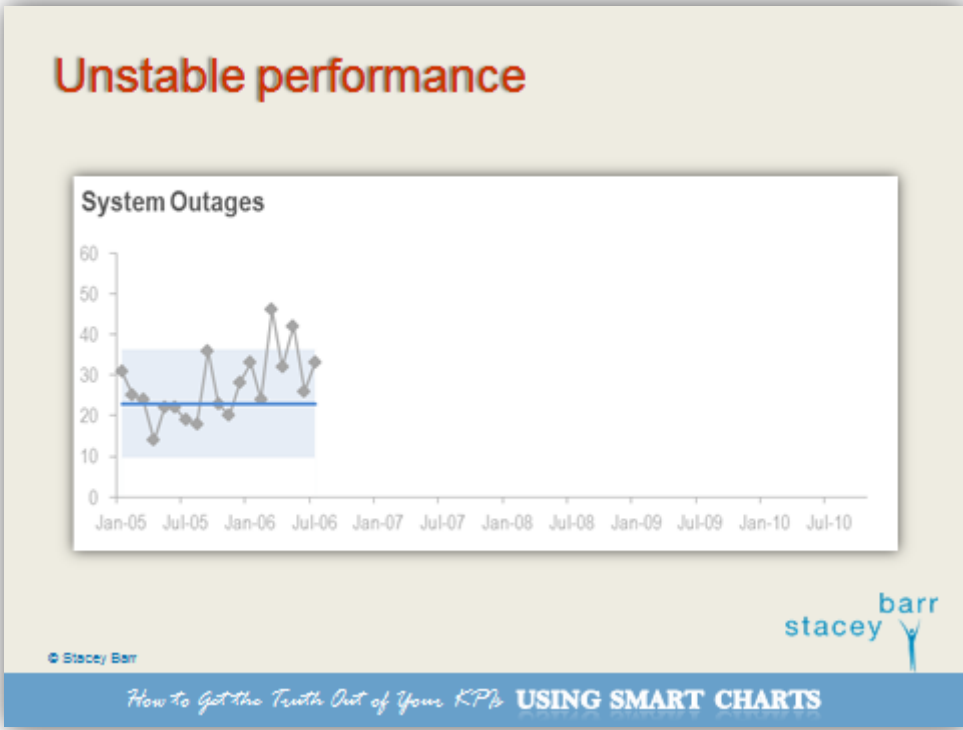
- Use the Central Line and the Natural Process Limits
- Looking for patterns that DIFFER to the pattern of routine variation

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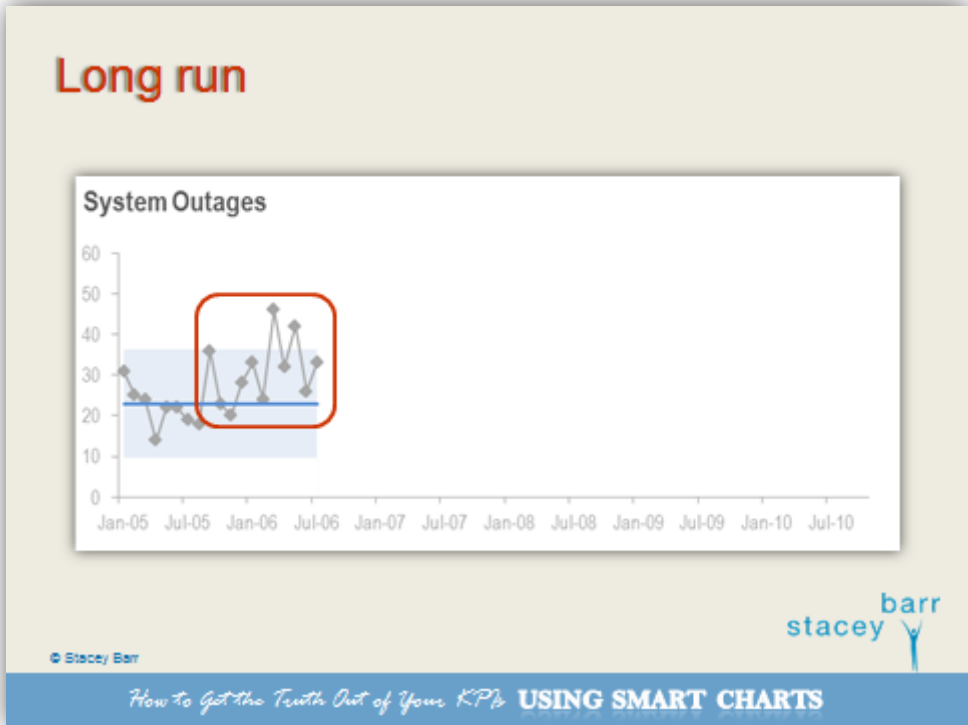


How to Get the Truth Out of Your KPIs USING SMART CHARTS

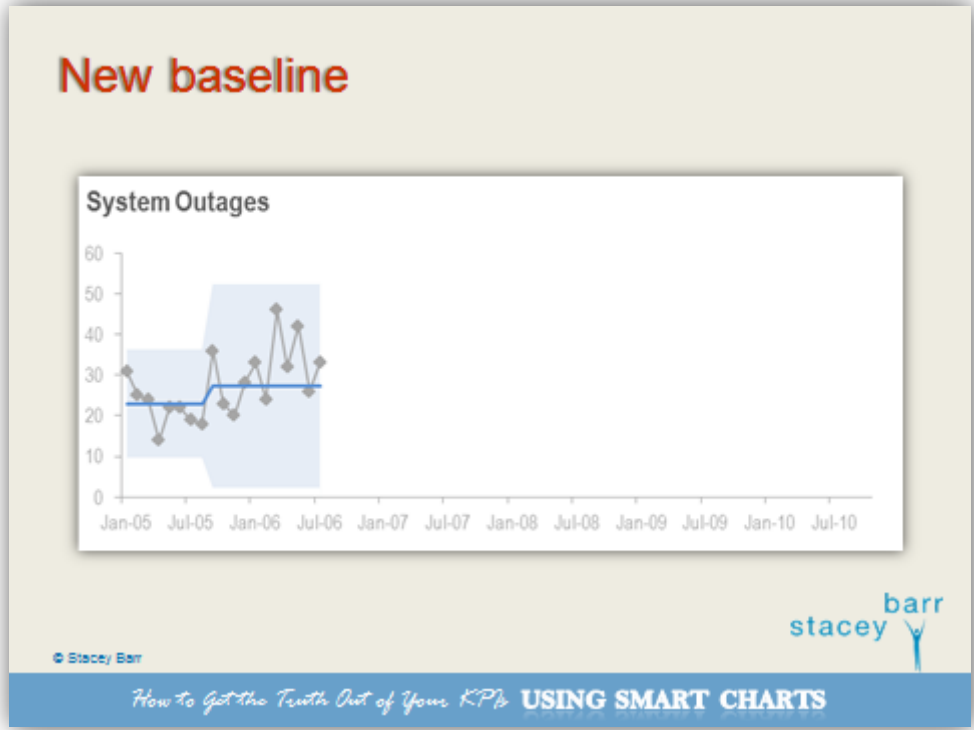
Your notes:



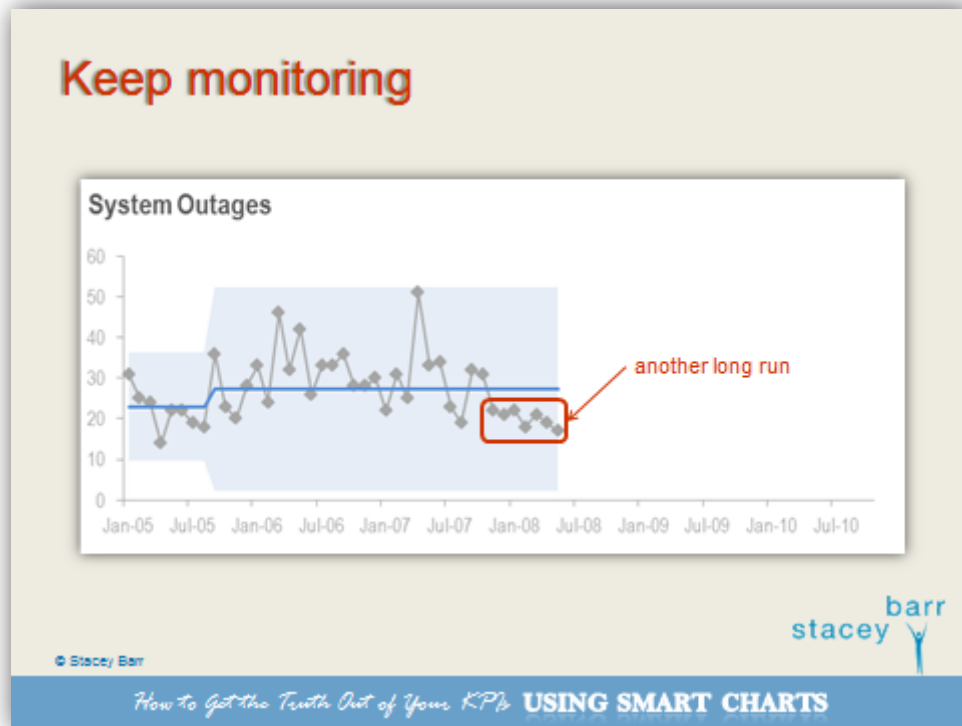
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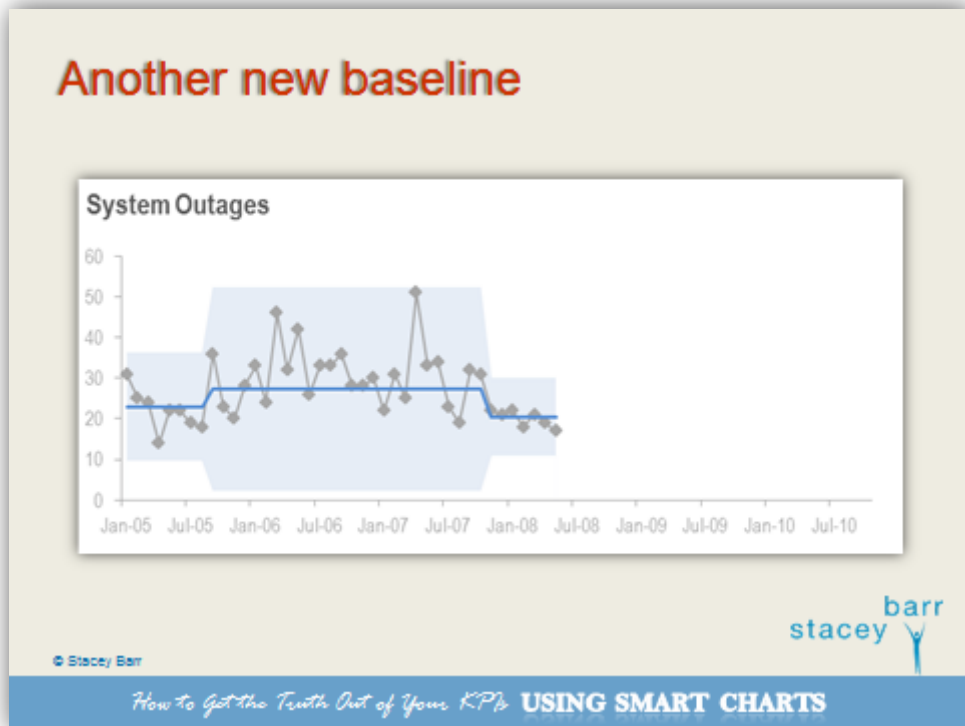
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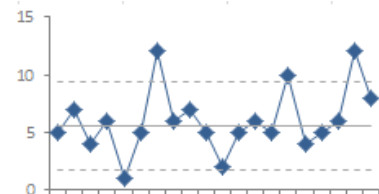
Your notes:

Signals to look for in your Smart Charts

Here are the most common signals you'll see in your performance measures, and how to recalculate your Central Line and Natural Process Limits:

Unstable (chaos)

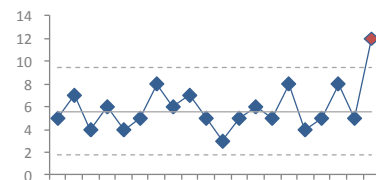
No predictability, heaps of random variability. There is little control or influence being exercised over the result (e.g. policies or standards or systems). Or perhaps there are actually a bunch of signals going on. Or it might just be very "noisy" performance.



Don't bother with when to change your Natural Process Limits and Central Lines – instead, focus on standardising the process that produces this result until you get more stability or predictability in performance.

Special cause (or outlier)

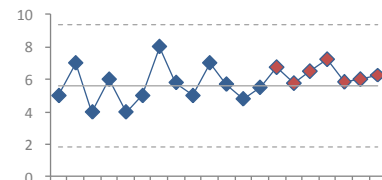
A point outside the Natural Process Limits indicates something unusual happened. Just find out what it was, don't try to fix it unless it's a real problem, but it's likely to be a one-off.



Don't recalculate anything.

Long run

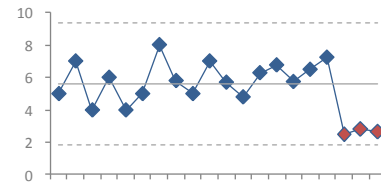
At least 7 consecutive points running on one side of the Central Line (or 10 in 12, or 12 in 14) indicates a sudden change. It may be by design, and if not, find out the cause.



Use the 7 points that constitute this new suggested level of performance, and use those points to recalculate your Central Line and Natural Process Limits.

Short run

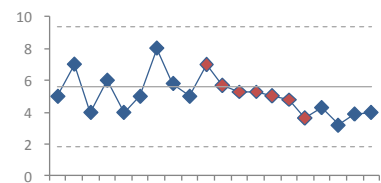
At least 3 out of 4 consecutive points closer to the control limit than to the Central Line is also a sudden change. Because the size of the change is so dramatic, 3 or 4 points are enough to be confident it's a real change. It may be by design, and if not, find out the cause.



Wait until you have 6 or 7 points that continue to follow the new suggested level of performance, and use those points to recalculate your Central Line and Natural Process Limits.

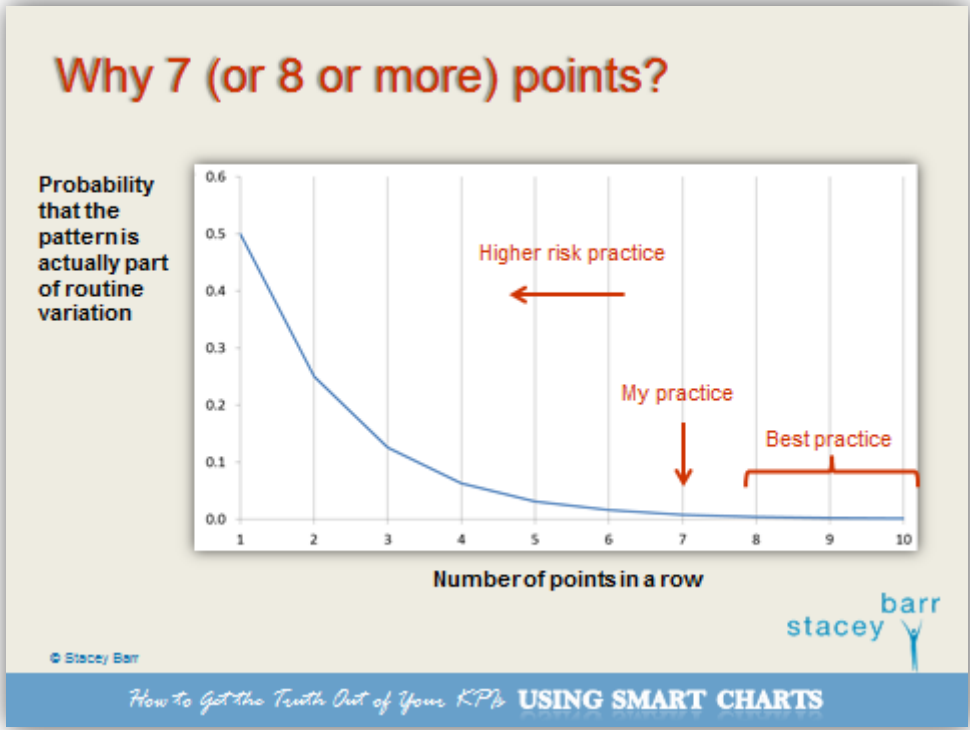
Trend

Some of the XmR chart literature discusses this signal, but Donald Wheeler, author of "Understanding Variation" and XmR chart expert, says that the other signals should pick up anything this signal highlights.



The "trend" is at least 7 consecutive points progressively inclining or declining (or 10 in 12, or 12 in 14) indicates a change is unfolding gradually. Wait until it levels off again before concluding its effect.

After you get another 5 or 6 points in a row after the end of the trend, use these 5 or 6 points to recalculate your Central Line and Natural Process Limits.



Your notes:

When to recalculate your Central Line and Natural Process Limits (the “baseline”)

When you get a signal in your performance measure’s Smart Chart, it can often mean that performance has shifted to a new level.

That means it’s behaving differently now, and it’s the product of a different underlying business process or system. The process or system is somehow different (hopefully better), and that’s why you’re seeing the change in performance level.

For any signal, you want to investigate to find the likely cause. If it turns out that the signal is a true reflection of what you can now expect performance to continue doing, it’s time to recalculate the Natural Process Limits and Central Line to reflect the change.

The recalculation is done at the point in time when the new level of performance started.

- For a “special cause”, you don’t recalculate anything, because it’s not a pattern that is likely to continue – it’s just a momentary blip in performance. But keep watching it, as it may be the beginning of a “short run”.
- For a “long run”, that means using the first 5 or 6 points from the beginning of the “long run”.
- For a “short run”, that means also using the first 5 or 6 points from the start of the “short run”, so you’ll need to wait until you get the extra 2 or 3 points after the “short run”.