The 4N Chart®

The 4N Chart® is a simple, quick and effective tool for gaining a balanced, qualitative perspective of any issue. When used as part of the improvement process it can help an individual and a team focus on where they will get most benefit for least effort.

To create a 4N Chart:

1. Take a blank piece of paper.
2. Draw a vertical line down the middle to separate the Present on the left from the Future on the right.
3. Draw a horizontal line across the middle - the separates the Positive feelings above the line from the Negative feelings below the line.

Nuggets   Nice Ifs

Present ———————————————— **Future**

Niggles   No Nos

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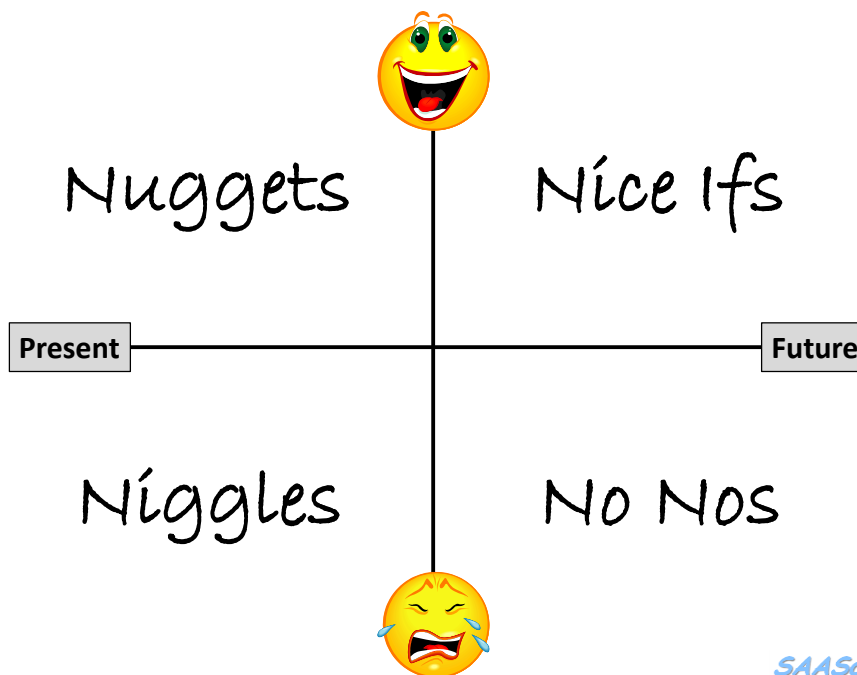
4. Next we put our individual or group ideas about our topic on the chart, grouping them according to the four Zones.

5. We ask "What is the feeling?" then "How is it caused?" Feeling then Fact.

6. We start bottom left and focus on negative feelings

that we have now - these are our **Niggles**. We work backwards to from the feeling to expose what causes it. e.g. "*I feel anxious when I am late for work **because** I set off late **because** I could not find my car keys.*"

7. We then move top left and focus on the positive feelings that are generated by what works well now that we often take for granted. e.g. "*I feel supported because we look out for each other*". These are our **Nuggets** and there are always more nuggets than we see at first glance.

8. Then look bottom right and list the negative feelings we do not want in the future. These are our **No Nos**. e.g. "*I do not want to feel scared about being blamed.*"

9. Finally, we go to the top right and focus on the positive feelings that we want more of in the future and how we could get them. These are our **Nice Ifs**. E.g. "*I would like to feel more secure by having a clear expectation of my role and responsibilities.*"

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The process of improvement has two linked challenges:

A) Finding ways to **start** doing some Nice Ifs and to keep doing them, i.e. converting Nice Ifs into Nuggets. This is "creative pull" or our "burning ambition".

B) Finding ways to **stop** doing some Niggles and to prevent doing them again, i.e. converting Niggles into No Nos. This is "reactive push" or our "burning platform".

The process can start with nailing a Niggle because this will release the very resources we need to fuel our creativity. When we find a way to convert a Niggle into a No No we will liberate energy, time and money and these are the three "currencies" that we then re-invest to create a new Nugget from a Nice If.

The key is to **focus** and we use the Niggle-o-Gram® to help us do that.

Description of the Niggle	Incidence (0 to 9)	Impact (0 to 9)	Influence (0 to 9)	Code (000-999)
Can't find car keys	8	5	9	8-5-9
Untidy desk	9	2	9	9-2-9
Global warming	9	9	0	9-9-0

For each Niggle we ask three questions and score our answer as a number:
Q1. How often it happens or the **Incidence**. (0=Never to 9=Always).
Q2. What is the effect or **Impact** (0=No Effect to 9=Showstopper).
Q3. How much **Influence** do we have over the root cause (0=None to 9=Complete).

Now we create a code for each Niggle that will range between 0-0-0 and 9-9-9.

The Niggle with the code that is closest to 9-9-9 is the one to focus our effort on first because this will give the biggest return on investment and avoid diluting our efforts. The weighting is "Influence > Impact > Incidence" so in the example the "Can't find car keys" is the #1 Niggle. We might "nail" it by installing a key hook by the front door and then consciously develop a habit of putting our keys on it. ☺

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Traps and Tips

Newcomers to the 4N Chart® tend to fall into a number of traps in the process of learning how to use this simple, yet surprisingly effective, diagnosis-and-design tool.

Trap #1 – Confuse the observed symptom with the assumed cause.
The instructions say that we start with the feeling and then describe the process that caused it, i.e. the emotion is the effect or outcome. For example, we might say: *"My niggle is that I feel anxious when I have a backlog of work to do because I know that if I rush then I am more likely to make mistakes which I might miss and thereby cause unintended harm for which I might be blamed".*

If we fall into Trap#1 we might say: *"My niggle is that I don't have enough time".*

Notice the difference, in the first version we are describing the external reality of feelings and facts, in the second version we are describing what we assume is the root cause. This is our internal rhetoric and we are assuming the cause.

This trap is called the "Ladder of Inference Trap" and we all fall into it without being aware we are doing it.

The danger of this trap is we just re-inforce our existing beliefs by distorting the information that we are receiving from the outside world, and thereby ensure we are unable to diagnose the actual cause of the niggle, and treat it. In this case we are literally "jumping to conclusions" rather than asking the factual question: "*What is the cause of the backlog of work that is generating my anxiety?*"

We fall into this trap in all four parts of the chart by omitting to write down the feeling first, and then describing the step-by-step process that led up to the feeling. To do this we have to deliberately and consciously switch to "feeling mode" and then to "fact mode", and that takes a bit of practice to do naturally.

In the Niggle Zone the feelings are usually a combination of disappointment, irritation and anxiety, the milder forms of the three primary emotions of sadness, anger and fear. These emotions are generated in the unconscious parts of our brains in reaction to sensory inputs, and they are all related to a sense of loss.

Sadness is the sense of loss in the past,
anger is the sense of loss in the present, and
fear is the sense of loss in the future.

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Our brains have evolved to be constantly on the alert for possible threats, which we may have to detect and respond to quickly. So much of the processing is automatic and unconscious – like a reflex – and out of our conscious control.

What happens is that, if a specific pattern of sensory information comes in, the unconscious mental reflex is triggered, and a learned response follows automatically and out of awareness. We are only consciously aware of the fleeting emotion and, some time later, our final conclusion, decision and action, which are all associated with a sense of confidence and certainty. We react intuitively.

Unfortunately, our confidence does not always match the competence of our unconscious information processing system! Psychologists have shown that, paradoxically, an incompetent decision (i.e. error) can be associated with a feeling of high confidence (i.e. over-confidence). This is potentially dangerous combination is the result of gap in our verified knowledge and validated understanding, what we call "know how". We need to be mindful of this "blissful ignorance" trap.

The way to avoid Trap #1 is to (a) slow down the thinking process and (b) to force it up to conscious awareness so that our "leaps of logic" can be examined rationally and dispassionately. To do this we follow the causal process **backwards** by:
1) Starting with the question: "What was the feeling?"
2) And then asking "What happened just before that?"
3) And then we keep asking the "What happened just before?" question to move backwards in time until we have sketched a map of the causal process.

So in our example when we ask "How does the backlog of work develop?" we might discover a combination of factors that combined together to cause it such as "I accumulate tasks of a specific type until I have enough to make it worthwhile setting up to do them because I feel is a more efficient use of my time" or "I set a specific amount of time aside on a Friday afternoon to do the more difficult tasks because I am less likely to be interrupted then."

Note that each statement describing our behaviour includes a "because" and a justification, and it is the unconscious assumptions that underpin these justifications that we need to expose and examine. We keep the valid and update the invalid.

Our invalid assumptions have often been learned using a form of reasoning called learning by association. In fact, this is how we discover how the world works, we do experiments. Unfortunately, that does not guarantee our causal assumptions are valid.

To illustrate this let us examine a common symptom: a queue.

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Picture yourself in a supermarket on a busy Saturday afternoon and when you arrive at the checkout you see queues of people waiting with their baskets and trolleys. You feel anxious because you sense you will be late home and will miss the start of the big match; you feel irritated when you see a number of unmanned checkouts; and you feel disappointed because you always leave the weekly shop until Saturday afternoon and often miss the kick off. Then a bell rings and a number of staff appear from the back offices, open up the empty tills, and the queues quickly shrink. You breathe a sigh of relief and are home in time for the match. Observation: when the shop opened more flow-capacity the queues went away. Conclusion: the cause of the queues was lack of flow-capacity. That feels right. You are confident in your belief.

Let us now consider a different symptom: a headache.
Picture yourself arriving home after a long, stressful day at work. You have a pounding headache, so you reach for the bottle of painkillers and about 30 minutes later your headache has gone. Observation: when I took the pills my headache went away. Conclusion: the cause of my headache was lack of pills. Eh? That doesn't feel right.

But the logic is identical, so why does one feel plausible while the other does not?

The reason is that we know more about what actually causes headaches (e.g. stress), the physiology of the body, the biochemistry of the pain pathways, and the pharmacology of the pills. We understand that the stress-to-headache process is self-correcting and the pills will suppress the symptoms while the body gets on and heals itself. So we do not fall for the invalid conclusion.

The reason we come to believe that "queues are caused by lack of flow-capacity" is because we have never been taught about the physiology and pathology of queues.

So it comes as a surprise to learn that most queues are not caused by lack of flow-capacity and that adding flow-capacity (and cost) is treating the symptom rather than the cause. And because we do not have a self-healing system, the actual cause of the queue goes undiagnosed and untreated. So the queues become chronic. And this observation reinforces our assumption, which over time becomes a firmly held belief. So firm in fact that we will unconsciously distort and delete evidence that challenges it because we feel so confident that we are right.

As soon as we are able to reflect and reveal a gap in our knowledge or understanding, we have a new option to explore. It is uncovering those "gaps and gaffes" that opens up the opportunity for learning. The 4N Chart® is designed to help us do that.

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