

Emergent Design

Leading through divergence, dialogue;
convergence and commitment ©

Dr Neil Preston

Organisational Psychologist - PsyOpus

Emergent properties and collective intelligence

Recent research in collective intelligence (CQ) suggests that the 'wisdom of the crowd' emerges out of the conditions of the group and not the individual intelligence (IQ) of the participants. Wooley et al (2010) recognised that average and maximum intelligence (IQ) does not predict group performance.

So what is an emergent property and why is it so important to collective performance? An emergent property is a property which a complex system has but which no individual member or element does. In chemistry for example, saltiness is a property of salt but it does not mean it's also the property of sodium and chlorine, the two elements that make up salt. In biology the heart is made up of heart cells but that does not mean that heart cells pump blood. Heart cells on their own do not have the property of pumping blood. Team spirit is an emergent property since no individual person in the team holds the element of the spirit of the team. This may explain why Mick Jagger's solo albums are never as popular as the Rolling Stones albums. What is it when Mick, Keith, Bill and Charlie get together to create fabulous rock 'n' roll? Well it is an emergent property.

Being smart is not enough for CQ you need other *conditions* for it to emerge – but what are they?

Reductio ad absurdum and the fallacy division

By habit we believe that if we can break everything down to its constituent parts we can build a high performing team. This absurd form of reductionism is subject to the fallacy division – that is claiming chlorine must be salty because it is an element of salt is the fallacy division; the same way the heart cell can pump blood or anyone can replace Keith Richards and still make the Rolling Stones rock. We constantly and reflexively look for the 'causes of things' rather than the 'conditions that give rise to it performance'.

From causes to conditions

We are stuck on the leadership myth that if we find the right leader (cause) everything else will follow. Hackman (2012) recognised rather controversially that this is the "leadership attribution error" – that is we often over attribute success to the salient behaviour of the leader rather than the more latent conditions that gave rise to great performance of the team. Well then, don't leaders through their leadership create the right conditions for great performance you might ask? Not when you look at the evidence. A study by Wageman (2010) found that 37% of team performance was attributed to the structural conditions of the team while only a miserable 1% was due to leadership coaching. In other words, set the wrong conditions for performance and no amount of *great* leadership can have a profound influence on collective action. This is because we often lean the wrong ladder against the wrong wall. For example we often seek the ladder of 'charismatic leaders' while ignoring the wall of poor conditional properties that gives rise to poor performance again and again. If we shift our focus from causes to conditions, maybe we can allow for the design of any strategy or decision to emerge out of the wisdom of the crowd – that is collective intelligence (IQ) and emergent design.

Emergent Design Practice

Emergent design practice is any collective action where conditions are created intentionally to maximise collective intelligence to solve complex problems. It should be abundantly clear for any leader by now that the 21st Century is no place for a control freak. Freeing up the conditions for solutions to emerge out of the wisdom of the crowd is essential for effective collaborative leadership. Front ending the right conditions is essential for emergent design practice. Let's take for example launching a rocket to the moon. All the pre-work is critical to the rocket's performance. Once the rocket is launched the best a leader can do is 'manage at the margins' or as Hackman clearly stated you either steer the rocket to the moon or blow it up and start again. To allow for maximal collective intelligence, certain conditions are needed to tackle and tame wicked complex problems.

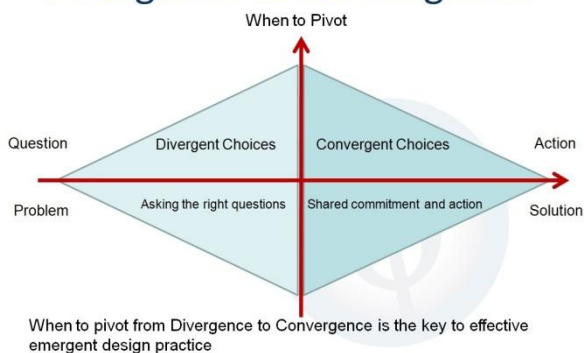
Pivot thinking – Divergence and Convergence

Mark Schar from Stanford University recognised that for innovation to occur in design their needs both

divergent and convergent forms of thinking.

Traditionally and dispositionally problem solvers are *convergent thinkers* who like to 'get to the facts' of things before making decisions. Divergent thinkers on the other hand are rarer birds and prefer to ask questions and open up enquiry. While convergent thinkers like to 'get to a solution', divergent thinkers like to 'open the space up for enquiry'. The trick is simple but difficult to perform which is when to pivot from divergent to convergent forms of enquiry and decision making. Emergent design practices needs the skill to pivot from the two ways of thinking in order to tackle and tame wicked problems.

Divergence to Convergence



www.psyopus.com.au

How then do we use both divergent and convergent thinking? Essentially divergence needs dialogue and convergence needs compelling and committed action. Setting up the right conditions for dialogue are essentially to allow ideas 'to go out before coming back in'. Divergence thinking requires two essential conditions, the first is psychological or participation safety and the other is knowing how to ask the right questions.

Divergence and Dialogue

In order to understand what the right questions to ask and tackle in a robust dialogue using the wisdom of your crowd (CQ), you need strong conditions for participation safety.

If people do not feel safe to speak their truth they will not tell you either what is wrong (risk) and what is needed (solutions). Poor psychological safety increases risk and considerably reduces collective performance. In order for strong psychological safety, the leader must be comfortable to let go of always being in control and allow for true dialogue to

emerge. Leaders who do this well not only can reduce risk but also become tolerant with ambiguity. In order to be tolerant with ambiguity to encourage safe robust dialogue, the Leader must have advanced Emotional Intelligence (EQ). Remember the 21st Century is no place for a control freak.

Convergence and Commitment

With complex problems we progress by failing forward and being committed to actions that are always going to be contingent, emergent and somewhat unknown. This is not because we are incompetent leaders but we understand and respect the difference between a complicated and complex problem.

Proper convergent thinking comes when Leaders assist in making sense of patterns in the dialogue where shared understanding arises. Seeking these 'emergent properties of meaning' means that understanding how elements relate to each other for collective action is the practice of emergent design. Whether the design be a strategic plan, a lessons learnt or quality assurance program, convergence comes where there is *the greatest amount of shared commitment through shared understanding*. Great leaders who are collaboratively mature do not corrupt, compete or cajole others into their way of thinking but allow for patterns to emerge that make the greatest sense to the greatest amount of people to devise collective action around.

To best tap into CQ a collaborative leader assists in creating the right conditions and helps makes sense of what are the emergent themes that are coming out of the dialogue between interested parties. Failing forward requires the courage to commit to prototyping new ideas that once proven successful can be scaled into projects and eventually whole scale programs of how things are done within an entire organisation – this is the emergent way.

References:

- Hackman, J.R.(2012) From Causes to Conditions in Group Research. *Journal of Organisational Behaviour* 33, 428–444
- Schar, M. (2011) Pivot thinking and the differential sharing of information within new product development teams. Doctoral Dissertation Stanford University.
- Wageman, R. (2001). How leaders foster self-managing team effectiveness: Design choices versus hands-on coaching. *Organization Science*, 12, 559–577.
- Wooley, A.W. et.al., (2010) Evidence for a Collective Intelligence. Factor in the Performance of Human Groups. *Science* 330, 686-688.