

Systems Thinking for Enterprise Transformation: Mapping Mental Models Behind the Current State

Fortune Buchholtz, September 2024

When we Agilists are asked to join an enterprise on their transformation learning journey, we will fail if we don't have a strong understanding of how the organization functions today, what its parts are, how these structures arose, for what purpose, towards what goal, and how to re-shape all these with skill.

Here's where **Systems Thinking** helps us. It offers us the understanding that focusing solely on isolated bits in complex systems will not effectively address their problems. Their complex nature requires us to view them through a wider lens, to take into account their dynamic inter-relationships and patterns when working to resolve issues and make lasting improvements.

So the key point we can take from systems thinking is that the enterprises where we work are dynamic, complex systems that form a resilient whole. We see that all firms enclose groups of inter-related, inter-independent parts, coming together to form an larger system – the organization – that began with a specific purpose.

These parts are the key systems and sub-systems we should concern ourselves with if we want to succeed. Together, they are like a ball of dough: knead it all in one direction and feel the *pattern* of resistance, then movement, then a brief change in its shape... until finally it bounces back, stronger and more elastic.

This bounce-back insight can also be seen in Larman's Laws. When we encounter bounce-back, it shows that we have engaged the firm's overall *resilience*. To lessen the bounce-back, we have to consider being more adept in addressing the system and its parts.

Ackoff offers us a helpful model for thinking about these systemic parts. In his model he lists four: deterministic, animate, social, and ecological. He argues we can look for where *choice* exists in a particular system part to characterize it. And he notes that all four are hierarchically nested in a larger system, like the corporation.

This nested model gives us the concepts we need to approach the organization more adroitly. As Agilists, we are asked to work at the *social* level of the enterprise. This means our larger work has to be based in the people – imperfect, irrational, but possessed of a huge capability for growth and learning – as well as how the people communicate, how they receive feedback, and the firm's larger people-systems.

This is why just optimizing a tooling flow, making a 3-year plan, or dropping a new framework isn't enough. These "interventions" don't engage the correct nested

system level. They neglect the social purposes, needs and larger social system that drive behaviours and performance. Nor do these interventions necessarily affect the crucial feedback loop by improving communication to drive customer value.

In short, Systems Thinking shows us *the best place to start* our work: with how the people behave and operate inside larger social level of the system.

Seddon rephrases Deming when he reminds us that people's *behaviour is a product of their system*. And who ultimately creates this larger social system? In the majority of enterprises, it's the leadership and management.

And how do they bring this system into existence? Through the mental models they bring with them to their roles, often derived from their professional training and education, such as their MBA or business school.

These institutions taught them a certain theory of the firm, and how to model that theory. They're taught this is the proper – sometimes even only – method to follow.

And so they follow this method, creating a system to enact structures that incentivize hard-to-see patterns of behaviours and a blindness to signals showing it isn't working in their current environment.

This gap between their goal – to create, operate and sustain a certain system – and their current environment creates what Senge calls a difficult *creative tension*, which drives them towards a resolution. This is why they've taken the risk to begin a transformation.

This further refines our starting place: with leadership's mental models and their tension. How can we make these intangibles visible so we can see and interact with them? Fortunately, System Thinking offers us a way: the Causal Loop Diagram (CLD) workshop.

CLDs help us make leadership's mental models, systems, and incentivized patterns visible and open. Creating the diagram itself isn't the point of the workshop. In the Agile fashion, holding "individuals and interactions over processes and tools," the goal is the conversation that happens as people co-create any artefact.

It's the conversation that builds awareness of what people have internalized, and often find difficult to express. And in that conversation, connecting mental models to the systemic structures, onto the patterns of behaviour, everyone can finally tie the resulting events back to the models themselves. And slowly realize that to achieve different events and outcomes, the mental models must change.

Moving forward to new mental models unveils the productive possibilities towards a new system. And this creation begins to dissipate that creative tension towards a positive and successful transformation.

Like the value-stream map, the CLD doesn't require elaborate symbology. Its base is a system of simple loops with only 6 connectors, representing cause and effect, strong/lasting or short-term connections, as well interactive connectors for time delay and quick fixes, all focuses around the behaviours or conditions we see arising from the mental model.

These core loops can be augmented by further loops indicating what reinforces or serves to balance and mitigate the behaviour or condition under consideration.

Systems thinking with CLDs plays a key role in any Agile Enterprise Transformation.

