Systems Thinking: A Check List

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Surgeon and author Atul Gawande looked at the extreme complexity of knowledge in a range of fields from medicine to disaster recovery. He found that avoidable failures could be dramatically reduced with a simple tool: a checklist. Simple surgical checklists such as those described in Gawande's book, the *Checklist Manifesto*, have been adopted in more than 20 countries and are considered the biggest clinical invention in 30 years.

What checklist would help us better work with complex systems? Here is a start:

- ☐ **Name the change**
- ☐ **Ask why**
- ☐ **Test the boundary**
- ☐ **Expand your perspective**
- ☐ **Know the history**
- ☐ **Make the system visible**
- ☐ **Look for closed loops**
- ☐ **Account for the delays**
- ☐ **Check for classic systems traps (archetypes)**
- ☐ **Watch your language, and use visuals**

The above list is meant to get you started on *Framing a System* issue. Enacting *Systems Change* will have it's own checklist. Some features we'd include: run experiments, prepare for push-back, activate networks (to collaborate across issues), use backcasting, work across scales, commit to change patterns, support transformative learning, unleash agency of agents in the system, change resource flows, learn from indigenous knowledge systems and more. (For more, visit **www.lindaboothsweeney.com**).

Name the change	What is the change you want to see over what time period? Increase the number of clean water sources over the next five years? Slow the rate of deforestation by x-percent over ten years? Ask: If we could produce greater" health" in this context, what would it look like?
Ask why	It is deadly to start with questions like "How do we fix this?" or "What's the best intervention here?" Rather, start with questions aimed at trying to understand **why** things are the way they are and how we got here. Can we better understand the system that generated current conditions (admire the problem) before jumping into action?
Test the boundary	Be aware of the boundaries you set. Who's in? Who's Out? Why? Boundaries include physical aspects (e.g. focusing on a neighborhood, city or entire country) or organizational (e.g. focusing within our organization, or on the people/market we serve or other stakeholders). Boundaries can be temporal (e.g. looking at the next few months vs. next 10 years or longer). Look to "extend the present" by expanding the historical boundary (looking back) and future (looking forward) by three to five times longer than we typically might consider.
Expand your perspective	Actively expand your perspective to see the "system" from different perspectives, especially those that may be less common, obvious or "popular".
Know the history	Before jumping to solutions, understand the history. Ask: Do we have agreement about what has been happening over time? What are the trends? Show key changes over time through graphs, quantitative or anecdotal.
Make the system visible	Ask: what set of interrelationships are driving the trend(s) we're seeing? Map the cause-and-effect relationships among factors influencing your central question using pencil & paper, post-it notes on white boards or software programs like Vensim or Kumu. Don't map alone. Work in the context of the system, not silos. Systems thinking is a team "sport" and the tools support collective thinking.
Look for closed loops	Watch for linear, problem ➡ solution problem solving. Look for factors that build on one another— either amplifying or resisting change. How can you take advantage of these *feedback loops* that act as engines of growth or decline (reinforcing), or self-regulation (balancing)?
Account for delays	We habitually miss the critical role delays play in real systems. In the real-world, things take time to fully unfold. It may be quite a long time before an action produces an perceptible impact. Ask: Have we accounted for delays in both our diagnosis and strategies?
Check for classic systems traps	Complex systems, whether a family, an ecosystem or organization, exhibit recurring patterns of behavior. Understand those patterns (AKA archetypes) and then ask: are we falling into yet another fix that will backfire? Are we shifting all our resources to coping with the short-term and making it harder to address the real underlying problem? Are we pushing harder to get things off the ground and missing constraints that are resisting change?
Watch your language (and visuals)	Notice how we fall into fragmented or "laundry list" thinking. When someone asks, "What is the one thing we should do?" steer them to look at the *interactions* that will produce the desired outcome. A block of text is not the best way to convey the interactions that make up a system. Try causal maps, infographics and simulations.