

The 11 Laws

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| 1. Today's problems = yesterday's "solutions" | <ul style="list-style-type: none">• Fixes often create new problems later• Avoid solutions that simply shift the problems• "Shifting the burden dynamics" = fixes that only act on a symptom of a problem or are just short term solutions• These fixes lead to dependency on the short term solution |
| 2. When you push, the system pushes back | <ul style="list-style-type: none">• Resistance grows when you force change• Systems push to stay the same• There are "compensating feedback loops" that balance the system to a specific state and act against change |
| 3. Behavior grows better before it gets worse | <ul style="list-style-type: none">• Early improvements can be misleading• Long term problems may still build up |
| 4. The easy way out leads back in | <ul style="list-style-type: none">• Simple fixes don't solve root causes• You end up stuck in the same loop• You grow independent of the short term solution and need more of it ("We need a bigger hammer" - Syndrome) |
| 5. The cure can be worse than the disease | <ul style="list-style-type: none">• Solutions may bring side effects• Trying to fix things fast can backfire• The long term solution must help the system to solve the problem itself |
| 6. Faster is slower | <ul style="list-style-type: none">• Pushing growth too fast leads to failure• Systems have natural limits and rhythms• The optimal rate for change is usually not the fastest possible |
| 7. Cause and effect are not close in time and space | <ul style="list-style-type: none">• What you do now may have effects much later• Consequences often appear far from the action |
| 8. Small changes can produce big results | <ul style="list-style-type: none">• Tiny, well-placed changes can shift the whole system• These points are hard to spot• You need to understand the underlying structures first |
| 9. You can have your cake and eat it too | <ul style="list-style-type: none">• You don't always have to choose either/or• Look for smarter solutions that balance both |
| 10. Dividing an elephant in half does not produce two small elephants | <ul style="list-style-type: none">• Breaking complex problems into parts loses the whole picture• Systems must be seen as wholes• Specialisation and fractionation of knowledge keep the focus from the whole |
| 11. There is no blame | <ul style="list-style-type: none">• Blaming others blocks learning• Everyone is part of the system and shares responsibility |

2 Types of Complexity

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| Detail Complexity: | Complexity caused by many variables in a system |
| Dynamic Complexity: | Complexity caused by complex interrelationships and interactions between parts of a system |

- Most leverage in business lies in dynamic complexity

Cycles of Causality

- Rather than linear cause-effect chains, reality is made of circles
- Example: Filling a glass of water is a circular system of cause and effect, regulating the amount of water filled

Two types of feedback loops

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| Balancing: | <ul style="list-style-type: none">• Effect-Cause loops that level a variable to a specific value• E.g. Filling a glass of water balances the amount of water• Balancing processes create resistance to change• Often unspoken rules like "You have to work overtime to get promoted" cause balancing feedback |
| Reinforcing: | <ul style="list-style-type: none">• Effect-Cause loops that build up or decline a variableE.g. a snowball rolling down a snowy hillSmall actions growing into big consequences leading to "vicious cycles" |

- Feedback loops do also have **delays**.
- They can make you overshoot the adjusting behaviour. Like turning the temperature too hot or cold in the shower because the temperature changes too slowly

Systems that control events

- There are specific "system archetypes" that dictate how systems work
- These systems consist of the types of feedback-loops and delays

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| Limits to Growth: | <ul style="list-style-type: none">• Situations where growth slowly slows and reaches a limit• It consists of one reinforcing process and a balancing one• E.g.:<ul style="list-style-type: none">The company grows and hires fast to meet demand. (Growing Action)As more employees join, coordination becomes harder and systems get stretched. (Condition)Miscommunication and delays increase, reducing overall productivity. (Slowing Action)The organization hits limits in training, leadership capacity, and structure. (Limiting Condition)• To solve it, identify the Slowing Action and reduce it• Always focus on the next limitation to your growth |
| Shifting the Burden: | <ul style="list-style-type: none">• Cycles of treating the symptom instead of the cause• Fast fixes are used to solve a problem temporarily• The problem comes back and side effects build up over time• Dependency builds up towards the symptomatic solution• E.g.: Using experts to solve the problems (Symptomatic Solution). The problem (Problem Symptom) is solved and leads to a quick fix. The expectation of the problem being solved by someone else rises (Side Effect). Next time the expert is needed again. The ability to solve the problem (Fundamental Solution) is neglected.• To solve it, strengthen the balancing process of the fundamental solution and weaken the one with the symptomatic solution |

System Archetypes

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| Limits to Growth | Something grows well, but hits a ceiling unless the constraint is removed |
| Shifting the Burden | You treat the symptoms, not the root cause -- and the problem returns |
| Eroding Goals | When results drop, expectations are lowered instead of solving the issue |
| Escalation | A rivalry or competition spirals out of control |
| Success to the Successful | The winner keeps winning, the weaker gets weaker |
| Tragedy of the Commons | Everyone takes more, and the shared resource collapses |
| Fixes that Fail | The fix works short-term but causes bigger problems over time |
| Growth and Underinvestment | Failure to invest in time leads to poor performance and shrinking growth |
| Accidental Adversaries | Two groups try to help but end up blocking or harming each other |
| Attractiveness Principle (from Fieldbook) | Tempted by what's easier, people abandon the deeper work |