



THE LEAN ENGLISH PODCAST

Episode 5: Systems Thinking
Part 1



EPISODE REVIEW

Episode 1: Introduction

- Intro to the company, podcast and process improvement
- History of method development
- Similarities and differences between methods

Episode 2: Lean

- Major principles and values
- Toyota's influence
- Waste identification and elimination
- Types of improvement
- Problem solving tools

Episode 3: Six Sigma

- The principles of Six Sigma
- Lean and Six Sigma as one method
- Five phase project structure
- Goals and requirements by phase

Episode 4: Agile

- The Agile Manifesto
- The 4 Values and 12 Principles
- Scrum Roles and Responsibilities
- Other types of Agile
- MVP vs MMF



OUR AGENDA

- Systems Theory for problem solving
- Systems Thinking
- How Systems Thinking relates to Organizational Learning
- Lessons from The Fifth Discipline
- How to draft and utilize Causal Loop Diagrams
- Causal Loop Diagram examples
- System Archetypes
- 10 Systems Archetypes and the leverage points for success



COMPLEXITY IN PROBLEM SOLVING

- Rarely do we find a simple, direct, linear link between cause and effect.
- Often the impact we experience is well removed from the cause, which creates a limited understanding of how to solve our problem.
- So, before we can create solutions that matter, we must first understand how the system operates that is creating our problem.





SYSTEMS THEORY AND SYSTEMS THINKING

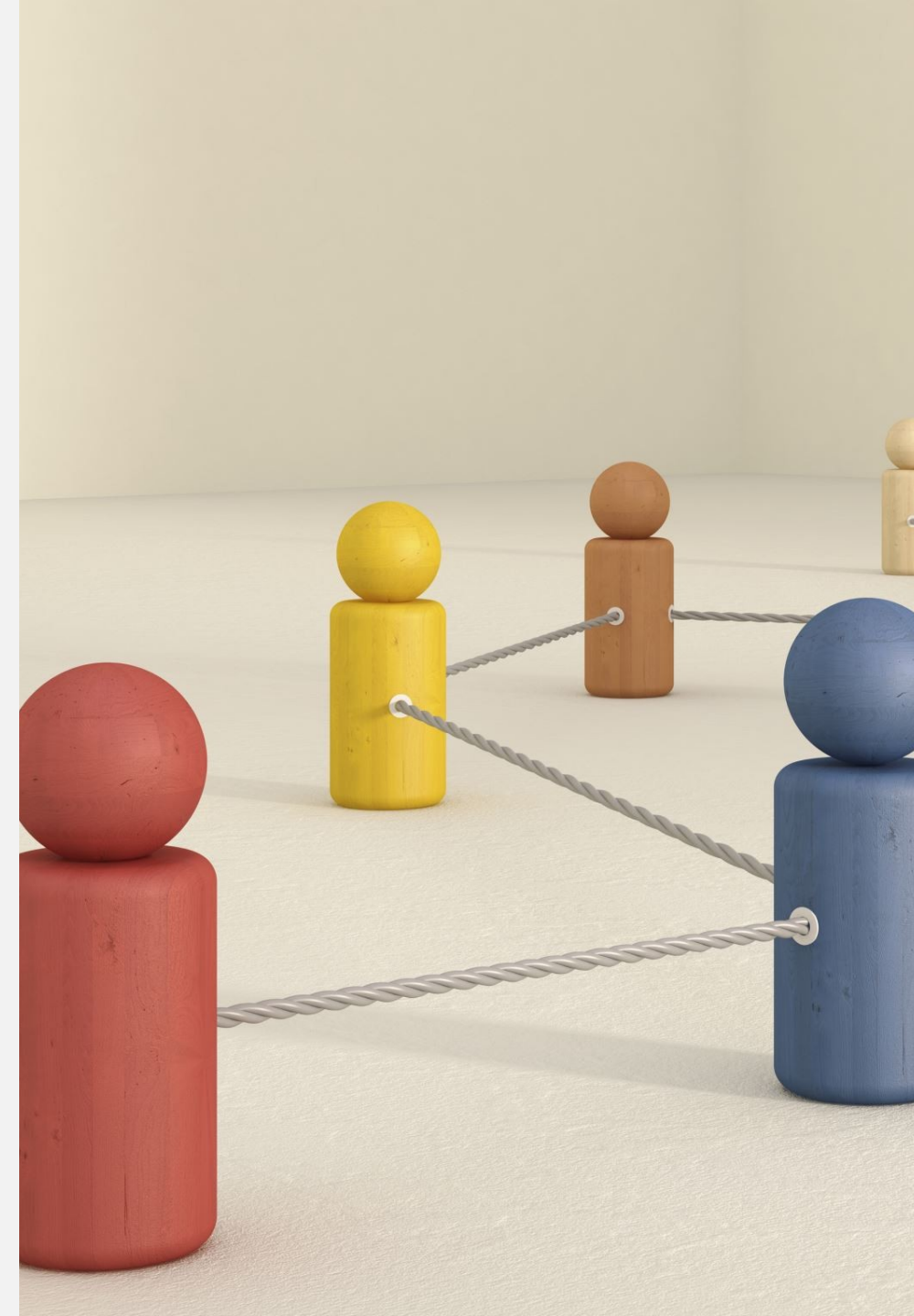
- As our world becomes more complex and interrelated, we are often unaware of how our outcomes are generated. So, we turn to Systems Theory.
- Systems Theory is the study of systems and how their interdependent components influence one another, creating outcomes that cannot be understood without viewing the whole.
- Systems Thinking is the application of Systems Theory in system management.
- Decision-making without taking a systems view can lead to vicious cycles and suboptimization.





AVOID SUBOPTIMIZATION

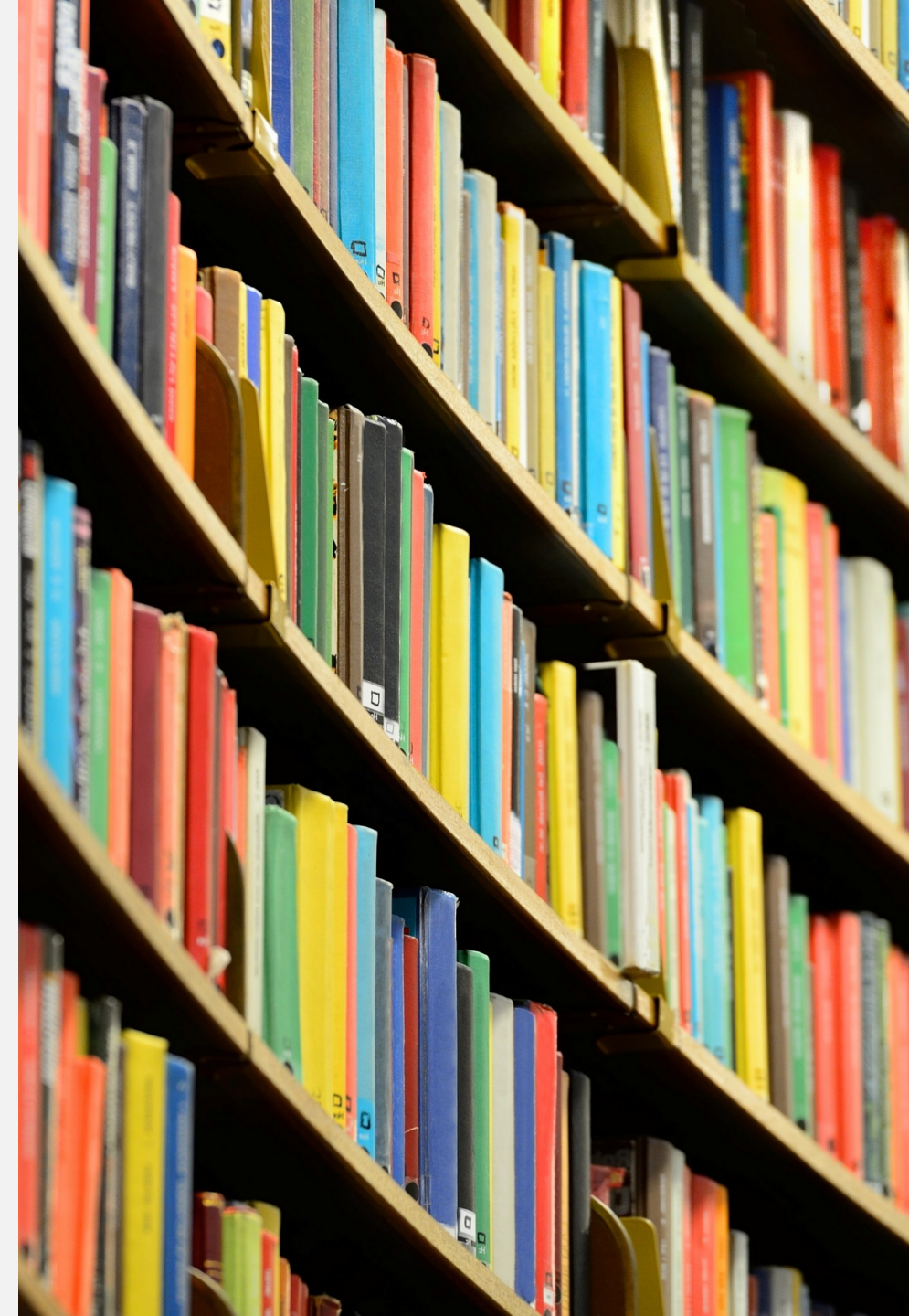
- Sub-optimization occurs when process improvement efforts are shunted by the lack of systems thinking.
- Local or short-term fixes are applied to a process step that improves its performance to the detriment of others.
- No matter how well that process step performs, without proper influence on the root cause of the system's problem, it will not benefit the entire system.
- All activities should be evaluated by how they impact the system.





IMPORTANT VOCABULARY

- System: a collection of interacting parts where behavior from one part influences the other parts.
- System behavior is understood only by viewing the whole, not individual parts.
- Feedback: a process by which the results of an activity or action are returned to the actor in a way that influences the behavior of that actor.
- Systems Thinking works to change outcomes by understanding how the system works and using that knowledge for problem solving.





IMPORTANT VOCABULARY

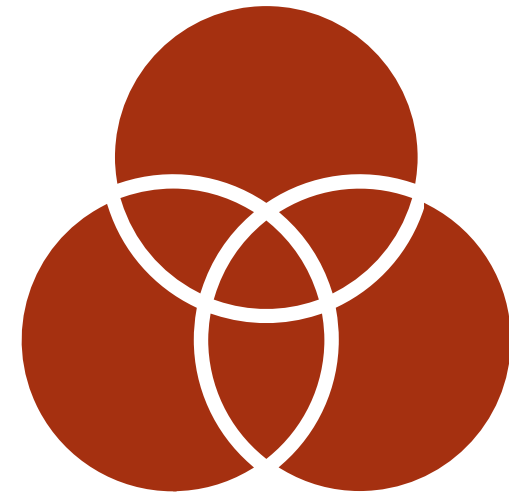
- A part of a system is anything that generates influence on another part.
- Influence is measured by the impact one part has on another part during an interaction.
- When stepping back, we see that the deadline itself is influenced by a part in a larger system like customer demand, the company's stock market price or a competitor's business decision.
- Only through systems analysis do we see them all connected.





A WORD OF CAUTION

- Researching how your company (re)acts will take a lot of time and a lot of truth telling.
- We know that complex systems rarely create linear relationships, so investigating cause and effect requires executive level support.
- Peter Senge mentions in *The Fifth Discipline* that companies who wish to become Learning Organizations must confront the systems they have created, regardless of the outcome.
- The word of caution; **be prepared to upset some people.**





FROM THINKING TO LEARNING

- So, why use Systems Thinking? Because you have been taking actions that do not provide the results you anticipated.
- Unseen systems contain forces that either negate or reduce the impact of your actions.
- Some systems are unseen because we do not know how to see them. Others are unseen because we choose not to see them.
- Everyone in the company must contribute to this effort of seeing reality, seeing the systems that determine and shape the company's future.





BECOMING A LEARNING ORGANIZATION

- Peter Senge describes a Learning Organization (LO) as one that is continually expanding its capacity to create its future.
- “Learning” in this context does not mean acquiring more information but expanding the ability to produce the results we truly want in life.
- Senge outlines five disciplines practiced by Learning Organizations to tap people’s commitment and capacity to learn at all levels in an organization.



THE FIVE DISCIPLINES

Achieving

Achieving personal mastery – People with high levels of personal mastery are continually expanding their ability to create the results in life they truly seek.

Shifting

Shifting mental models – New initiatives fail to change our results if they conflict with preexisting mental models; views of how we see the world.

Building

Building shared vision - Individuals do not sacrifice their personal interests to the larger team vision; rather, the shared vision becomes an extension of their personal visions.

Learning

Team learning – Companies cannot learn unless groups of individuals with limited perspectives come together to share their experience and collaborate honestly.

Thinking

Systems thinking – The discipline that ties the other four together because without it a team will develop short sighted, symptomatic solutions.



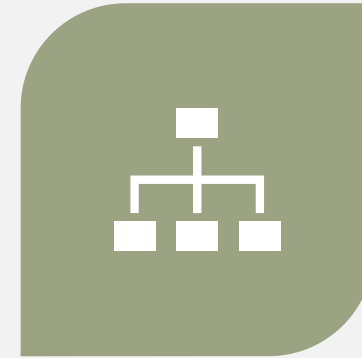
THREE LEARNING CAPABILITIES



FOSTERING ASPIRATION



DEVELOPING REFLECTIVE
CONVERSATIONS



UNDERSTANDING
COMPLEXITY,



LEARNING DISABILITIES

- What are the things that are keeping your organization from learning?
 1. I am my position
 2. The enemy is out there
 3. The illusion of taking charge
 4. The fixation on events
 5. The parable of the boiled frog
 6. The delusion of learning from experience
 7. The myth of the management team

LAWS OF THE
FIFTH
DISCIPLINE

Today's problems come from
yesterday's solutions.

The harder you push, the harder the
system pushes back.

Behavior grows better before it
grows worse.

The easy way out usually leads back
in.

The cure can be worse than the
disease.

LAWS OF THE
FIFTH
DISCIPLINE

Faster is slower.

Cause and effect are not closely related in time and space.

Small changes can produce big results.

You can have your cake and eat it too – just not at once.

Dividing an elephant in half does not produce two small elephants.

There is no blame.



IMPLEMENTATION OF TFD



There is no roadmap that provides the best way to become a learning organization, but there are essential components:



Leadership commitment and active participation is critical to set the example that learning is required by everyone



Enterprise-wide training in Systems Thinking and understanding the mental models is a good first goal.



Promote Personal Mastery in employees who seek to improve themselves.



Incentives for individuals and teams that challenge the status quo and search for the causal links to both successes and failures.



Create CLD for as many systems as you can find and experiment with leverage points.



Lean English
CONSULTING

END OF PART 1