

A Brief Introduction to Human Systems Dynamics

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Introduction

Human systems (HSD) is a field of theory and practice that aims to build Adaptive Capacity to help individuals and groups find options for action when predication and control are impossible. It has been used across sectors and around the world, wherever complex situations create apparently intractable issues. This document describes the foundations of HSD that contribute to its simplicity and power.

The Practice of Human Systems Dynamics

These are challenging times for people and communities around the globe. Our traditional approaches to society and its problems have broken down. The evidence is difficult to avoid: Climate change; political unrest; global pandemic; unchecked corruption; hunger; bias and racial inequity. We know the old ways do not work, and bold new methods are emerging from the theory and practice of complex adaptive systems.

Human Systems Dynamics is a complexity-informed approach that inspires action for intentional change at any scale and in any context of human interaction. It focuses on robust scientific principles and ongoing research and practice with the real wicked problems faced by real actors in a wide range of real environments.

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Examples of current HSD applications include:

- School principals from the USA and abroad meet regularly for shared inquiry to tame the wicked issues they face as they prepare to return to school in the middle of a deadly pandemic.
- Healthcare leaders around the world cope with current COVID-19 crisis. They learn from the past and set conditions for a more healthful and productive future. As they respond to COVID-19, they are building capacity for the next healthcare crisis, whatever it is.
- Activists and bureaucrats meet locally to address urgent issues and shared concerns. They find ways to harvest energy in the differences and tensions that divide them. They will not depend on common ground. A deeper understanding of the other's strengths and opportunities can open possibility for all.
- Leaders of nonprofits see patterns of possibility in the turbulence that engulfs them, their staffs, and the communities they serve. As leaders in uncertainty, they feel great urgency at a time when the future is most unpredictable. They see new options for action through an HSD lens.
- Facilitators who support human rights in factories in the developing world engage in inquiry across geographic, political, and language divides to expand adaptive capacity for themselves and others. They create options for action as they see how patterns of the present affect complexities of personal relationships and global supply chains.
- In a current certification program, 27 professionals from 8 countries complete Adaptive Action experiments to address their own personal and professional challenges. They also focus on what they can do to shift systemic patterns of racism, public health, equity, poverty, and justice.

In these diverse contexts, people use human systems dynamics to find options for creative action, even with the most daunting wicked issues.

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The Theory of HSD

The theory of human systems dynamics is derived from complexity science and honed in experience with people who are committed to sustainable social and organizational change. Based on these foundations, we believe that people hold tremendous potential for action. The potential exists in themselves and their relationships, teams, institutions, and communities. The theory and practice of human systems dynamics explores how this potential is held, how it is released, and how impacts ripple across psychological and social systems when the potential is actualized.

Our experience reveals a few basic ideas about the potential that is locked in human systems:

- Unreleased potential is perceived as tension.
- Sometimes tension is beneficial. Examples include: Love, learning, curiosity, empathy.
- Sometimes the tension is destructive. Examples include: Violence, bias, cruelty, aggression.
- Tension at one level influences tension at other levels. For example, one angry person in a team can shift patterns for the whole team. At the same time, an underperforming team can reduce the productivity of each of the members.
- People take action to relieve tension. We experience examples at all scales and in many contexts. Tears release emotional tension within a person. Asking questions releases tension for learning between people. Rioting releases tension of aggression among a crowd of people.
- When tension is relieved at one place in the system, it either increases or decreases tension in other parts or at other levels of the system. For example, when one person cries, it shifts the mood of others. As the mood shifts for a group, other individuals may also begin to weep.

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- The behavior of human systems is fundamentally unknowable because the structures that hold and release tension at every level of scale are open, have many interdependent variables, and depend on nonlinear causality.
- As a result, to maintain health and wellbeing, people everywhere need to see, understand, and influence patterns of tension holding and release. We call this ability Adaptive Capacity.

This understanding of complex dynamics leads us to a radically innovative approach to perceiving, understanding, and taking action to influence change in human systems. Our approach is based on three components of Adaptive Capacity: Inquiry; Pattern Logic; and Adaptive Action.

Inquiry

Today's complex world is unpredictable. For the past century, Western practices have sought to replace uncertainty with control. That strategy has succeeded in solving some massive challenges, but it has uncovered or unleashed many others. We are left, then, with a world in which uncertainty is the only certainty. Expertise, answers, control, and detailed planning are only useful in local areas and over short time horizons. When predictability and control fail, inquiry becomes a critical success factor.

HSD takes the challenge of inquiry seriously. We recognize that some things can be known and controlled, and we support the traditional approaches that are effective in those situations. In addition, we are sensitive to the fact that the most important challenges of today are neither predictable nor controllable. In those situations, the best answer is a good question. That is why the practice of inquiry is a significant component of what we call Adaptive Capacity for individuals and institutions.

We operationalize Inquiry with four simple practices:

- Turn judgment into curiosity
- Turn conflict into shared exploration

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- Turn defensiveness into self-reflection
- Turn assumptions into questions

Our community and our clients use these practices to engage with unknowable systems and emergent futures.

Pattern Logic

In a complex human system, causality is not simple. You seldom find a collision where the reaction is

“equal and opposite” to some other event. Instead, you have a wide range of unpredictable influences, many ways to measure success, and no clear chain of cause to effect. The driving question for policy and practice today is: What does problem solving look like without clear boundaries, simple cause and effect, or clear dependent and independent variables?

The answer is that it is impossible. Under conditions of radical uncertainty, wicked problems cannot be solved.¹ On the other hand, patterns of tension can be shifted, amplified, or released. That is the work of HSD. We offer tools to help people see patterns of tension, understand contributors and implications of the tensions, and take intentional action to change the tension and shift the pattern.

More specifically, we focus on three conditions that influence tension in complex, self-organizing systems: Containers (C), Differences (D), and Exchanges (E).

- Containers are boundaries that affect system dynamics. When they are small or impermeable, then tension is high, and change can be fast and relatively predictable. When containers are large or fuzzy, then tension is low, and change can be slow and messy.

¹ Rittel, Horst W. J., and Melvin M. Webber. “Dilemmas in a General Theory of Planning.” *Classic Readings in Urban Planning*, 6 Feb. 2018, pp. 52–63., doi:10.4324/9781351179522-6.

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- Differences are distinctions that hold tension in the system. Differences are many and varied in human systems. They can be visible or invisible (location and cultural history). They can be social or physical (race and location). They can be personal or collective (health status or health equity). Any relevant distinction in a human system can hold tension that is a potential for change. When differences are of a particular size and number, tension is held in a flexible way, and change can be smooth and clear. When they are too small, there may not be enough tension to drive change at all. When they are too great, the system may fracture before the accumulated tension can be released safely.
- Exchanges are connections that shift tension across differences. Sometimes they increase tension, and sometimes they decrease it. Exchanges can be physical, verbal, financial, electronic, or any other flow that influences system dynamics. When the exchanges are tight, tension is high, and change can be fast and predictable. When exchanges are loose, tension is low, and change can be slow and ambiguous.

These three conditions, CDE, determine patterns in human systems. We call it Pattern Logic. The patterns these conditions create hold tension over time. The three conditions are interdependent—a change in one shifts tensions that initiate change in the others. When any of the conditions is adjusted, the tensions shift, and change happens. This Pattern Logic works the same way at all levels and in all contexts of the system, from personal emotions to large-scale infrastructure development.

Adaptive Action

The final component of Adaptive Capacity is called Adaptive Action. It is a short, iterative cycle of observation, meaning making, and action that is driven by three questions: WHAT? SO WHAT? NOW WHAT?

This process allows people to see patterns that are currently influencing dynamics at any scale of a human system; to understand those patterns in ways that are both true and useful; and take action to change the conditions, shift the patterns, and release tension locked within the system.

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Adaptive Action, though simple, is not always easy. It may involve multiple people, with their various perspectives. One cycle may stretch across many years and multiple sub-cycles. One person may be involved in many different Adaptive Action cycles at the same time. And regardless of the context, every Adaptive Action cycle has the potential to reveal surprises, as the unknowable tensions of the system shift in response to NOW WHAT? actions by yourself and others.

Model/Methods of HSD

Not only are today's challenges wicked, but they are also urgent. People are under pressure to respond to complex change quickly, collectively, and with incomplete information. To respond to this need, the HSD Institute and members of the larger HSD Community have developed or adapted a collection of model/methods to support practical inquiry through Adaptive Action. Each of these tools is a model because it reveals patterns to answer the question WHAT? It is also a method because it guides meaning making in SO WHAT? and action taking in NOW WHAT?

All of the model/methods are deceptively simple. They embed HSD principles and practices in elegant patterns and practices. The simplicity makes it easy to see, use, understand, and teach Adaptive Capacity in diverse situations.

This collection of model/methods is extensive and ever-expanding. Most are accessible on our website,¹ and all are available for use. Our intellectual property policy invites everyone to use them with only two conditions: Cite HSD as the source, and share what you learn with the rest of the HSD Community. Members of the HSD Community around the world use the model/methods, adapt them for language or context, and continue to expand the collection to help other see, understand, and influence human systems at all scales.

¹ www.hsdinstitute.org/resources.html

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Conclusion

In these days of radical instability and uncertainty, people need a new way to make decisions and take action. HSD offers a coherent theory and practice that prepares individuals and groups to engage with their complex and emergent challenges. Our vision, which we live today and envision for the future is:

People everywhere thrive, because we see patterns clearly, seek to understand, and act with courage to transform turbulence and uncertainty into possibility for all.