Legacy:
Sustainability in a Complex Human System

a resource for leaders in a changing environment

by
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Introduction

Welcome! Legacy—Why do we work so hard to bring about change in our organizations, communities, and teams? One reason is that we want them to operate effectively and efficiently, accomplishing goals and providing the goods and services that meet the needs of our customers and clients. The bottom line, however, is that we want our organizations, communities, and teams to create a legacy of success and productivity. Such a legacy is difficult to achieve in today’s quickly changing and volatile environment.

Sustainability is like the weather—everyone talks about it, but no one really knows what to do about it. Traditional models of sustainability have been developed from more linear models of change and organizations. The challenge in those models is that neither change nor organizations are linear. Organizations are complex adaptive systems, and as such, the requirements for understanding them and for working in them are very different than traditional models teach us.

We created this CD to provide information about sustainability in a complex adaptive system. In addition to a thorough discussion, we include some tools to use as you think about sustainability in your organization. Each tool has a specific purpose. Used independently, they are highly effective for groups—organizations, departments, teams—that struggle to build sustainable systems in today’s landscape. Together, they form a useful approach that can help your organization think about sustainability in an entirely new light. You will find the following sections in this resource.

Section I
Legacy: Sustainability in a Complex Human System
In this section we have included the theoretical background and discussion around a new model of sustainability. Grounded in human systems dynamics, this work uses models and metaphors that help us understand the dynamical nature of sustainability and how we can “build” it into the initiatives we design. Written to be used and read like a book, each chapter is produced as an individual document that you can read on the screen or download and share with colleagues. Each of the chapters builds on earlier ones, but they can also be used alone to explore individual concepts.

Section II
Sustainability Tools
We have created tools for you to use in your work as you consider how to make your efforts sustainable. These tools can be used independently, but combined they make a suite of options that can
support you and your colleagues. The following describes each of the tools we are including.

- **Model for Sustainability** – Based in the study of human systems dynamics, this model provides insights about how to build sustainability in a complex adaptive system. The model presented in these materials provides concrete questions and perspectives for building sustainability into change initiatives. This model is also included in a package of figures that are used as illustrations throughout this resource.

- **Reflection Questions** – A set of reflection questions helps change agents reflect on and make decisions about the conditions that are necessary to sustain change in an organization. These process questions are organized around the factors from the model, and provide a guide for reflection throughout the change process. They are also intended as a tool for planning as you think prospectively about how to embed change projects in an organization.

- **Rubric for Sustainability** – This third tool is an assessment device that uses concrete examples and language as a guide in scanning the environment to assess progress toward sustainability.

### Section III

**Figures**

This section contains “camera ready” masters of each of the figures and models used. They can be used as you share this resource in groups within your organization.

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We hope that you find this CD useful. We are available for consultation or coaching as you begin to use these tools in your organization. Please contact us if there is any way we can be of help to you.

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Section I

*Legacy: Sustainability in Complex Human Systems*
Introduction

For organizations—for profit and not, large and small, public and private—in today’s fast-paced and changing landscape, sustainability is a critical factor in the development and implementation of change efforts.

- “How do we make sure that today’s changes will sustain inside our organizations over time?”

- “What programs or structures do we implement to support us in the face of constant change and challenges?”

These questions haunt leaders as they work for long-term success for their organizations; their employees; and their shareholders, communities, and other stakeholders.

Organizations are complex human systems where the factors that influence sustainability are massively entangled. No one factor can be teased out and pointed to as the “magic one” that assures long-term sustainability. In fact, sustainability is affected by a milieu of interdependent and interrelated issues that must be addressed.

Even the definition of “sustainability” is evolving over time. In the past, sustainability meant building structures that could withstand the test of time. Today technology brings greater power and facility, environments evolve, economic and demographic landscapes shift, so any structures that we build today can, in fact, be obsolete tomorrow.

The challenge change agents face is to build flexible systems that sustain the original purpose of the initiative, even as the structures change in response to the needs of the organization. Sustainability was about building structures that would last. **Sustainability today is about maintaining the purpose of an initiative, regardless of the structures that support it.**

Think about leadership development programs. A company may invest huge resources in developing a program to identify and develop potential leaders from its own ranks. Structures are established for selecting and supporting these people, mentorships are set up, and an entire series of training events is scheduled. This can be a very expensive proposition.

Then, when the company goes through a time of fiscal challenges and budgets have to be decreased, hard decisions have to be faced. Leadership development is often seen as a luxury, and eliminated early in times of fiscal difficulty. Leadership development has not become a sustainable program in those organizations.

On the other hand, in organizations where leadership development has been established as a “concept” rather than a “program,” it has been sustainable. More experienced employees mentor newer employees. Training is scheduled when it can be. Young, promising
employees are given opportunities to learn and grow in their areas of expertise. The idea of leadership development has become embedded in the organization, and is not dependent on structures that may or may not change. So how does that happen?

The most effective approach we have found for building sustainable systems is to plan and implement with a set of six questions that guide our decisions throughout the process. Sharing these questions in the beginning, as part of the initial thinking helps to shape the foundation upon which the work is built. Sharing them throughout a change process continues to shape the work so that the resulting commitment and outcomes of the change efforts are embedded into the threads of the organizational tapestry.

These questions have emerged over time as we have worked in organizations, building on traditional OD theory and learning from the field of human systems dynamics. Planned change models map out the steps to be taken, but don’t necessarily speak to sustainability—that is not their purpose.

Some of the models offered in the more traditional perspectives of organization development provide concrete, clearly articulated approaches for moving an organization through change or for bringing a change into an organization. There are models that remind the change agent of areas to address; models that tell them what stages or phases will be encountered; systems models; and models that talk about “fit” among the organization, the change, and the current environment. From any of these perspectives, sustainability seems to be static. “What works today will work tomorrow, and so it is sustainable.”

In human systems dynamics, the underlying assumption is that complex human systems are self-organizing constantly to adapt in their environments. These systems are unpredictable. While leaders may be able to identify patterns or trends, they cannot predict the specific path or events on a day-to-day basis. Complex human systems are uncontrollable. Leaders cannot control the myriad forces at work in their organizations. They can, however, influence the path, speed, or direction of its movement. The very characteristics of complex human systems—adaptable, unpredictable, uncontrollable—are changing the requirements for sustainable change.

To be sustained in a complex human system, an initiative must continue to meet the needs of the organization across the process of self-organization. This requires that any innovation or initiative be designed to be

- **sensitive** to its environment so that changing patterns are detected in time to adapt,
- **flexible** enough to respond to changing patterns and to continue
meeting the original need, and

- **robust** enough to withstand emergent challenges and changing patterns in the organization.

The following chapters will introduce complex human systems and how seven factors influence the sustainability of initiatives. The chapters are written in such a way that you can use each chapter somewhat independently or in concert with the others. For this reason, you may notice some redundancy from chapter to chapter. That repetitive text is built in to reinforce earlier concepts in light of the next chapter’s focus.

**Chapter 1: Complex Human Systems**

This chapter explains complex human systems and self-organization. Discussion will center around the characteristics of these systems that make sustainability a challenge in today’s environment.

**Chapter 2: Influencing Complex Human Systems**

This chapter provides insights about how leaders can take steps to influence complex human systems in productive, intentional ways.

**Chapter 3: Factors of Sustainability**

This chapter will explore the six factors that influence sustainability in an organization. There are also suggestions for effective leadership for change.

**Chapter 4: A Change Model for Sustainability**

This final chapter will introduce a change model that considers the characteristics of a complex human system.

Together these concepts create an underlying foundation for bringing about lasting change in a complex human system. At the end of each chapter you will find

- a list of benefits these concepts can provide for leaders inside organizations as well as for consultants who work with change agents.
- reflection questions that are designed to trigger some deeper thinking about how you bring about change in your own work.
- a list of resources, citing specific sources of the information that is shared in that chapter.

It is my sincere hope that this book is useful to individuals and teams who take on the challenge of bringing about sustainable change in today’s organizational environments.
Chapter 1:

Complex Human Systems
Chapter 1: Complex Human Systems

Today’s organizations require new approaches to complex challenges. Most traditional organization development technologies rely on models of human interactions and tool kits of professional interventions which were effective in addressing organizational issues in more linear, predictable times. Today’s organizations, however, operate in a quickly changing, highly diverse, and globally demanding environment, requiring a different approach to the challenges and opportunities related to creating sustainable change.

Various traditional models of change offer suggestions about steps to take in effective change management, in building a framework for institutionalization, in diagnosing and assessing the various aspects of the organizational culture and environment. Each of these models offers perspectives for seeing the organization and for taking steps to move forward. Many of them are limited, however, in how they describe the organization. Some of the models see the organization as linear and predictable. Others that move toward systems thinking, see the organization as a closed system, separating it from its external environments.

The field of human systems dynamics (HSD) sees organizations and their environments as complex and adaptive human systems, recognizing that they are neither linear nor predictable. HSD also recognizes that human systems are open systems, responsive to and impacting the environments in which they operate. HSD is a theory base that encompasses ideas from many social sciences and from the physical sciences, most specifically, chaos theory and complexity science. Because it is grounded in theory and practice, rather than in tools and techniques, HSD provides a robust response to the infinite variety of clients’ needs and situations.

Researchers and popular practitioners have provided insights about HSD applications in organization change. Glenda Eoyang, Ph.D., provides options for action through the application of her CDE Model. Margaret Wheatley talks about the conversations and interactions between individuals and groups, and the generative nature that is required of those conversations as the organization moves forward. Richard Knowles explores the skills and understandings needed by leaders in complex, self-organizing institutions. Dee Hock uses the metaphor of a network to explain and build the relationships he describes as chaordic.

All of these and many other colleagues who use principles of chaos
and complexity rely on a theory base from which individuals apply what they already know in more useful, coherent, creative, and productive ways. Because they characterize the dynamics of complex, self-organizing change, these models and the HSD theory base that underlies them present innovative and coherent ways to see and influence change in the whole, the part, and the greater whole or organizational systems.

Using HSD as a theory base to understand sustainability in an organization provides a different set of screens for seeing and influencing what happens. Based at the intersection of the complexity and social sciences, HSD uses what has been learned over time from anthropology, psychology, sociology, and human systems theory. Placing those insights in the context of complexity theory and chaos sciences, useful metaphors and descriptions emerge that more accurately describe human behavior in a system. This is true whether that system is an organization, a family, a team or a community. It is this set of metaphors and descriptors that provides us greater understanding of sustainability in any of these systems.

**Definition of a Complex Adaptive System**

At the foundation of HSD is an understanding of complex adaptive systems (CAS). A complex adaptive system is defined as one where “semi-autonomous agents interact in unpredictable ways, giving rise to system-wide patterns of behavior.” These system-wide patterns, in turn, reinforce the behaviors of the individual agents. (see diagram at the side of this page) When using this definition to look at organizations, we are looking at complex human systems.

Think about the emergence of culture in an organization. While you might be able to describe the general expectations for behavior in a group of people, the individual behaviors of any one person at any given time are not predictable. When the people in an organization generally behave in ways that respect and celebrate diversity and creativity, the patterns that emerge reflect those behaviors. Eventually policies, expectations, and formal and informal reward systems that are developed reinforce those behaviors. This cycle of emergence and reinforcement becomes stronger over time until those attitudes permeate the organization—the culture emerges. Whatever the culture of an organization, it was created when behaviors established patterns over time and, in turn, behaviors were reinforced by those patterns. Sustainability in an organization depends on this cycle of pattern development and reinforcement.
Whatever is to be sustained has to become a part of this cycle.

A CAS is also dynamical. “Dynamical” is a term that refers to the forces at work in the system. Static systems appear to have few or no forces at work. If they move or change over time, it is so slowly as to appear not to be shifting. Dynamic systems have forces that work on each other, but those forces can be identified and measured. Water shooting out of the end of a water hose is an example of a dynamic system. The amount of water, the size of the hose, and the speed with which the water is flowing all work together in predictable ways to create the parabolic curve of the water that comes out. An increase in one force will change the curve in a predictable, measurable way.

Dynamical systems also have multiple forces at work, but these forces are interdependent and massively entangled. There is no way to predict the impact of any one of the forces. A small shift in one may cause a tremendous change in the overall pattern. At the same time, a huge shift in one may have little impact overall.

In an organization, this can be seen, for instance, when one small event causes a tremendous system-wide impact. A small rumor can ruin a promising career. One bad batch of product can destroy a company’s reputation. One positive comment can get an employee re-energized to increase his work performance. The forces at play in an organization cannot be measured or predicted, and this is one of the challenges in thinking about sustainability.

**Landscapes of Complexity**

Another tool for understanding a CAS is to think about differing landscapes that pose different challenges and call for different responses across the organization. Paying attention to these landscapes is also critical in thinking about sustainability.

In any organization two factors influence the emergence of the landscapes. These factors are Certainty and Agreement.

**Certainty** is the degree to which people are sure that some particular thing—event, process, response—will happen. In an organization with clear and unambiguous policies and procedures in payroll, people can be “certain” that they should submit their timesheets on a given date or day of the month, and they are “certain” that they will be receiving their paychecks on a given date or day of the month—they are close to Certainty in
their understandings. At the other end of that spectrum people are far from Certainty. They aren’t certain about anything. Across the organization, individuals and groups will fit along a total spectrum from “close to” Certainty to “far from” Certainty, as shown on the X-axis on the figure on this page.

**Agreement** is the degree to which people have the same understanding about what is going to happen. Again, in an organization with clear and unambiguous policies around payroll, not only are people “certain” about when to turn in their timesheets and when they will get paid, they can also agree on those days or dates. They are “close to Agreement.” On the other hand people can be far from Agreement when their beliefs are different. The degree of Agreement is shown on the Y-axis on the figure.

These two possibilities open the organization to infinite combinations and scenarios, depending on the relative Agreement and Certainty present at any one time and in any one scenario. These variations shade across both continua, creating three landscapes in the organization (see diagram at the side of the page).

**Organized Landscape**—This is the landscape that occurs when the organization is close to Agreement and close to Certainty. Remember the example of the payroll department? The procedures are clearly articulated and closely followed. Everyone knows what needs to be done, and they agree on the steps to take. Other examples are procedures that are governed by federal, state, or local regulations. The hiring process, accounting, manufacturing—all of these are examples of work that is accomplished in the Organized Landscape.

To lead effectively here means to articulate, monitor, and maintain those processes and procedures so that they run efficiently and accurately.

**Unorganized Landscape**—When the organization is far from Agreement and far from Certainty, life is chaotic and unpredictable. Not only are people uncertain about what is going to happen, neither can they agree with each other. Examples include days during the flu season when one-third of the staff calls in
sick, the front line of customer service, or the highly creative space in research and development. There is not Certainty what will happen next, and people are far from Agreement about what each occurrence means. Each incident requires a specialized response.

Effective leadership in this Unorganized Landscape requires adaptable and flexible responses, watching for the patterns that may be emerging, and maintaining a sense of humor as staff members need various types of support.

**Self-Organizing Landscape**—This area is the “middle space” where employees work together, teams function, culture emerges, and relationships happen. Patterns of behavior and need are emergent, calling for adaptability and more specified responses and support. Some generalization can be made, but each pattern still needs to be assessed. Control is not possible, but influence is. Prediction at the individual level is not possible, but naming the patterns and making general statements is.

Effective leaders in the Self-Organizing Landscape learn to read the patterns and develop adaptive and responsive actions that support individuals in continuing to move toward the goals of the organization, even as they encourage and support risk taking and initiative.

When we work in the Organized Landscape, we create policies and procedures to guide action and decision making. When the work is close to Agreement and close to Certainty, there is more control and more predictability. We can build systems that are more likely to last over time. Think about the process of payroll. In almost any organization, that process is established early and doesn’t have to change much as the organization and its environment change. On a periodic schedule, individuals will turn in their timesheets and get their paychecks. More people join the organization—it’s still the same process. New technology comes out to speed up the process—it’s still basically the same process. Slow down in the market—it’s still the same process. Sustainability is less challenging when a system is close to Certainty and close to Agreement.

Unfortunately for those who like control and predictability, most of the difficult work in organizations occurs in the Self-Organizing and the Unorganized Landscapes. Customer service, responding to emergent needs, supervising individuals are all the kinds of activities that send us further from Agreement and further from Certainty, and whatever we “build” to help us do the work requires greater flexibility and adaptability. Organizational support and structures have to be more responsive and adaptable to meet the needs of individuals as they identify and deal with the shifting patterns inherent in a complex human system.
In the Self-Organizing Landscape, policies generally guide behavior, but procedures cannot always be applied since each event or pattern of events is somewhat different from others. In this space, the values and mission of the organization help guide behavior and decision making when exact procedures cannot be used. The other critical characteristic of the Self-Organizing Landscape is that this is where patterns emerge. How people in the organization treat each other; how they treat customers; what kinds of risk are tolerated; what types of programs gain support...all of these kinds of issues are patterns that emerge in the Self-Organizing Landscape.

How can leaders be sure that those who work in this space understand and live out those values in coherent and sustainable ways? How can they increase the chances that productive patterns are established and sustained and that destructive patterns will be damped? To understand sustainability in this new perspective of organizations, it is important to see the roles that simple rules and patterns play.

Patterns and Simple Rules

In nature, birds flock together, relating to each others’ flight patterns in beautiful and graceful ways. Termites in Africa build solid and intricate nests that stand over time. Ants follow long paths to bring food back to the nest to feed the young and the queen. How do these animals know what to do?

Scientists who have studied these and other phenomena have built computer programs that use simple rules to establish patterns of movement on the screen. For example, they have identified a set of three simple rules that will create patterns that look like birds flocking.

1. Fly toward the center.
2. Maintain the same speed as those around you.
3. Don't run into anyone.

This phenomenon has been interpreted in HSD as meaning that such simple rules can guide the behavior of the individuals in a complex human system. Think about the culture of an organization. By studying the patterns of behavior, it is often pretty easy to identify possible simple rules that would create those patterns. For instance, in an organization where the culture is open and honest and accepting, the rules might include

- trust yourself and others,
- share what you know, and
- support people in their work.
On the other hand in a culture characterized by distrust and turf issues, simple rules might include

- keep what you have,
- cover yourself, and
- protect your own area.

The simple rules of an organization emerge from the real values and beliefs of the leadership. Whether or not the leaders live according to their stated beliefs becomes visible when you begin to look at simple rules. That is why it is so critical that leaders “walk their talk.” By the actions they take, they establish patterns that give rise to the simple rules. Then, as illustrated in the definition of a CAS, the patterns in a complex human system then reinforce those behaviors of the people in the system.

Because of their powerful influence on organizational behavior, simple rules are critical to sustainability. If an initiative helps the organization live out the simple rules or fit in the environment more effectively, the chances of it sustaining are increased. Initiatives that ignore these patterns or violate the simple rules—spoken or not—will not be sustained in the organization’s culture.

Sustainability in a Complex Human System

Seeing an organization as a complex adaptive system takes a person’s perspective far from the traditional view of organizations. Because of that, it takes a far different view of sustainability, as well. Change agents who want their work to last have different tasks when they work from this perspective.

**Embed the work in the organization.** Sustainability in a complex human system is not about established and solid structures that support an initiative. Sustainability in a complex human system is about embedding an idea or concept into an organization and assuring that it is widely connected throughout.

**Pay attention to multiple forces and trends.** Because a complex human system is dynamical, there is no single leverage point or hinge that will assure sustainability. Change agents will have to establish ways to pay attention to multiple forces across the organization to increase the chances of sustainability.

**Build in strength and flexibility.** A complex human system is neither predictable nor manageable. Sustainability in a complex human system requires that the initiative be able to respond to the demands of the moment and adapt as those demands shift over time.
**Recognize the Organized Landscape.** When a system is close to Certainty and close to Agreement, sustainability is more easily achieved. Procedures and articulated expectations are relatively simple to implement and will last over time. Usually only huge shifts in technology or organizational need will cause significant change here.

**Recognize the Unorganized Landscape.** When a system is far from Certainty and far from Agreement, the Unorganized Landscape makes sustainability much too difficult. Leaders who beat themselves up because they have not been able to sustain a structure or a concept in that landscape need to understand that the very nature of the Unorganized Landscape makes that impossible.

**Recognize the Self-Organizing Landscape.** Initiatives in this landscape must fit with and respond to the patterns that emerge over time. They must be flexible enough to adapt, yet robust enough to maintain their original purposes. This is where the factors of sustainability are most important and useful.

**Observe and understand patterns.** Patterns will tell a great deal about the culture, the values, and the simple rules that govern behavior and decisions. Sustainable initiatives fit into the culture, match the values, and support the simple rules.

**Pay attention to simple rules.** Do people know and agree on the prevailing expectations? Are there groups of people who work against those expectations? Are there reward systems and consequences for those who do or do not live by the simple rules? Initiatives that are going to be sustained will have to operate inside those expectations, but also be connected to those who operate on the outside of organizational expectations.

**Ask questions.** A change agent who is working for sustainability in a complex human system recognizes the need to embed the initiative into the fiber of the organization. Questions will guide that work. When change agents remain in a stance of inquiry, questions about the system, itself, guide decisions and actions.

Given this understanding of a complex human system, sustainability can be seen as the ability to continue to meet the needs of the organization across the process of self-organization. This requires that any innovation or initiative be designed to be

- **sensitive** to its environment so that changing patterns are detected in time to adapt,
- **flexible** enough to respond to changing patterns and to continue meeting the original need, and
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*Legacy: Sustainability in a Complex Human System*
Reflection Questions

1. What activities do I see in my organization that exist in the self-organizing landscape?

2. In what ways have the initiatives I have put in place in the past focused on structures rather than on the purpose or functions that were to be served?

3. If I had really focused on purpose or function rather than structure, what would I have done differently in those initiatives?

4. Who else needs to be involved in this conversation, and how can I go about getting them involved?
Resources


Chapter 2: 
*Influencing Complex Human Systems*
Chapter 2: Influencing Complex Human Systems

As discussed in the previous chapter, a complex human system is neither predictable nor controllable. Patterns and trends can be seen, but individual actions cannot be predicted. Leaders may influence what happens in a complex human system, but because of the myriad forces at work in the system, they cannot control the process of self-organization that characterizes a complex human system.

All of this is what makes sustainability so difficult in a complex human system. If you cannot predict, how do you plan so that an initiative survives future challenges? If you cannot control, how can you assure that an initiative will be accepted and used in the organization?

Sustainability in a complex human system, as was discussed earlier, is about assuring that the purpose of the initiative lives on in the organization, even when the structures have been altered. This is important because as the organization changes over time, if the initiative was designed to be sensitive to the environment, strong and flexible to withstand change, and robust to continue to meet the needs of the organization, then it will adapt and continue to fit the environment it was created to serve.

This idea of fit is critical in human systems dynamics. The entire field is focused on how human systems adapt to their environments to assure the most productive and generative fit or viability in the context of the system’s environment. In this chapter, we will review some basic concepts related to influencing a complex human system.

- “Fit” in a Complex Human System
- Co-Evolution
- Self-Organization
- CDE Model

“Fit” in a Complex Human System

The goal of self-organization is to allow the agents in the system to form patterns that support survival in the environment. Through self-organization, agents scan their environments and adapt their behaviors to survive. This process of adaptation for survival is referred to as “fit.”

In an organization when the environment is dangerous and threatening, fitness comes from emergent patterns of self-protection and self-preservation. When the environment is supportive and encouraging, fitness comes from sharing and taking appropriate risks. Sustainability is supported when the innovation or initiative is designed to support the organization’s fit with the environment as it shifts over time in the complex human system.
Co-Evolution

The parts (structures, agents, etc.) in a complex human system are referred to as being “massively entangled.” This refers to the ways in which they are interdependent with each other in non-linear ways. For example, in a linear system (like a machine) if the parts are interdependent, when one moves or changes, the impact on the other(s) can be seen and measured directly. In a non-linear system, the interdependencies are intermeshed and not measurable—massively entangled. The result is that when you shift any part of a complex adaptive system, it will have some effect in the other parts, but that effect cannot be predicted and causal factors are not clear.

Co-evolution, as depicted in the figure at the side of this page, is the mutual influence two or more “agents” have on each other as they grow—learning from each other, teaching each other, and influencing the system in which they live or work. This concept is important in sustainability because of the interdependent nature of the parts of a human system. The initiative must be sensitive to the changing patterns in the system, so that it can respond appropriately. At the same time, the initiative must be connected to the system well enough to be able to influence the system as the initiative, itself, shifts. The sensitivity and ability to influence comes from both parts of the system.

Self-Organization

As was discussed in Chapter 1, self-organization is how a complex system adapts to its environment. As a human system experiences changes or differences, its agents—the individuals who make up the organization—begin to organize themselves to assure that they will adapt to the changes.

We can see self-organization in many ways. For instance, as a team of individuals spends the first days of working together, they form relationships, they earn how to work together, and leaders emerge—they self-organize into a team. Then the pattern of “team
work” influences individuals as they seek to fit in the team structure. Throughout the time they are together they continue to self-organize as they adjust to new ideas, new learnings, and new experiences—each shift is a move toward continued fitness.

Organizational life is surprising; new challenges arise daily. Because it is impossible to codify a response to each of these events, individuals in the organization respond according to their own interpretations and impressions. These unpredictable, patterned responses to changing forces in the environment give rise to learning and growth, and new patterns emerge as the organization experiences and adapts to change and challenges in its environment.

The Landscape Diagram (see Chapter 1) reflects the relationships between those activities in the organization that are planned and predictable, those that are self-organizing, and those random events that we encounter every day in organizations.

So how does a change agent bring about any shifts in such a massively entangled, constantly changing system where individuals respond to their own needs as they move forward with the organization. If it cannot be predicted or controlled, what are the options for bringing about change?

To understand how to influence the process of self-organization in a complex human system, it is important to understand the conditions that influence it. The Eoyang CDE model describes those conditions.

**CDE**

Leaders can neither predict nor control self-organization, but they can influence it. As a complex human system self-organizes, three conditions of the system influence its speed, path, and direction. By understanding those conditions and how they can be shifted, leaders gain options for actions they can take when they feel at the mercy of unpredictable forces.

The **container** bounds the system and “holds” it together. Containers can be physical (a building or area); they can be organizational (a department or family); or they can draw people together in a common linkage (a charismatic leader who draws people together in commonly held ideas or beliefs).

Another condition that influences self-organization is the existence and degree of **differences**. If everything in the system is alike, there is no pattern; disagreement over a significant difference causes conflict. Leaders who pay attention to differences that make a difference are able to use them as leverage to bring about change when necessary.
Exchanges occur when resources—time, money, information, etc.—change hands in a system. This is the third condition of self-organization. Communication, rules, and feedback are examples of exchanges.

These three conditions—container, differences, and exchanges—are at work in any complex human system at any time. It is in how they interact with each other that they influence self-organization.

Leaders who want to influence self-organization in their systems learn to shift one or more of these conditions to influence how quickly the organization self-organizes, what direction that self-organization will take, or even the path by which the organization will move.

The conditions are massively entangled, meaning that, even though they can be separately seen and described, their influences on each other cannot be separated. A shift in one condition can significantly influence either one or both of the other conditions.

Think about a party. If you have many people in a small room, the atmosphere of the party will be very different than if you have a few people in a large room. The room is the container. The differences emerge as the people interact, and the talking, laughing and sharing are the exchanges. A large crowd will ordinarily have greater and more differences among its members than will a small crowd.

If you put more people in a small space (container) their differences will be more pronounced. They notice each other more, and the level of noise and energy will generally increase (exchanges). At the same time, fewer people in a large space (container) have room to get into groups of similar interests and opinions (differences), and the conversation and energy (exchanges) will be very different.

Leaders who want to influence self-organization in their complex human systems will pay attention to these conditions and find ways to see the patterns and how the conditions of the system influence what is happening.

Influencing Sustainability in a CAS

We offer a number of tools and technologies to influence the conditions in a CAS, and the Legacy Sustainability Model is one example. In this model, the container is assumed to be the organization and is held constant, with the action points focusing on exchanges and differences.

The factors that contribute to sustainability address the differences and exchanges in the system, and by working with those, change agents can intervene across the system to increase sustainability. It is
important to remember through this discussion that because the conditions, themselves, are massively entangled, any steps you take in one area can and will influence what is happening in another.

The following factors of sustainability come from the model presented later in this resource.

- **Connections** refers to how well the initiative is embedded in the organization without being redundant.

- **Commitment** refers to the degree to which others in the organization are committed to the success of the initiative.

- **Coherence** is the alignment with the organizational goals, direction, policies and procedures, as well as with internal and external forces and trends.

- **Constructs** are the organizational concepts and structures that go into the initiative.

- **Communications** are the paths, venues, and methods used to share and gather information about and for the initiative.

- **Continuous Assessment** provides the data from the earliest information about the need for an initiative until after the initiative has become institutionalized. It also provides feedback about how well the development and implementation process is working.

- **Capacity Building** assures that people receive the training and support they need to carry out the work of the initiative.

When change agents understand that they are working in a complex human system, they take steps toward influencing what happens in that system. When they understand the critical characteristics of a complex human system, they begin to understand their role in influencing the system to assure that initiatives are sustainable. One of those important steps is to consider and take action in each area addressed by the factors of sustainability. The next chapter explores those factors further.
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<td>• Use their understanding of co-evolution to support sustainability in their organizations</td>
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<td>• Use these concepts to see and influence their own systems</td>
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<td>• Understand the relationships between the sustainability factors and the work of the change agent in the organization</td>
<td>• Use these concepts to influence the systems in which they work</td>
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<td>• Begin to use the factors of sustainability to influence their systems</td>
<td>• Use these understandings to support organization leaders in their work to influence their systems</td>
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Reflection Questions

1. In what ways do the conceptual foundations that describe a complex human system match my own observations and experiences?

2. How can I think about using these ideas to support change in my organization?

3. In past change efforts, what factors have taken my attention? What factors did I not consider? How did that affect the work in the long run?

4. Who else needs to know this information and how can I best share it with them?
Resources


Chapter 3: Factors of Sustainability
Chapter 3: Factors of Sustainability

An organization is a human system that functions as a complex adaptive system (CAS). Sustainability in the complex human system can be seen as the ability to continue to meet the needs of the organization across the process of self-organization. This requires that any innovation or initiative be designed to be

- **sensitive** to its environment so that changing patterns are detected in time to adapt,
- **flexible** enough to respond to changing patterns and to continue meeting the original need, and
- **robust** enough to withstand emergent challenges and changing patterns in the organization.

The Legacy Model of Sustainability (see model below) outlines six factors that influence sustainability. The remainder of this chapter describes each of those factors and explains their importance in a complex human system.
Each of the seven factors that influence sustainability in a complex human system does so because of its specific role in assuring that an initiative becomes embedded in the system. Using these factors most effectively requires that they be considered in light of their applications in a complex human system. The following discussion explores those applications and provides some specific strategies for addressing each factor. First, a true story describes what consultants often find when they are called in to help in the middle of a change effort.

Over the course of a year, the executive group of this large (3000+ employees) urban governmental department had explored options for re-organizing to provide improved services to clients. Ultimately this group chose to move toward integrated services and began a re-organizing process. After about a year of working on the change initiative, this organization hired two consultants to assess how the department was progressing on the change process.

Over an extended period, these consultants conducted a five-part assessment of the implementation up to that point. The greatest learning was how little communication had actually been structured to talk about the initiative, to describe what it would be like to work in the new system, to orient employees to the new vision, or to gather information about what needed to happen. No real plan had been developed for communications or full implementation, beyond the first pronouncement. While people knew about the change, few people in the organization had first-hand knowledge or understanding of it and almost no one felt connected to it. Most communication about the initiative had been via e-mail and on the Intranet; little or no face-to-face conversation had gone on.

What the consultants found was little or no organizational commitment to the initiative from any level beyond top management. They found that where steps were being taken toward integration of services, there was little coherence with existing policies and practices, and even less between the work of departments that had formerly competed for resources and now had to collaborate to provide effective services. The constructs around planning and accessing and using resources were each dependent on individuals' memories or generosity to share. There was little or no continuous assessment of the implementation of the initiative on a day-to-day basis. No data had been collected about the change process itself, which had been in process for several months by that time. Little or no capacity building had been done to assure that employees had the skills and/or support they needed to work in the new structure.

Consultants called in to help in the middle of a process often find challenges in pulling the pieces together, but rarely is a situation as dramatic as in this example. Not only does it reflect how important the factors of sustainability are, it also shows how interdependent those factors are with each other.
**Communications** refers to the process of sharing data, information, and expectations across the organization. For an initiative to find its way into the heart of an organization, others must understand and appreciate its contributions. Communications connects the different containers by exploring the differences that are important and describing how the initiative will mediate between those differences and move the organization toward its goals. Communications allow the sharing of information and organizational learning about the initiative. Through various communications channels, members of the organization come closer to Agreement and Certainty about its purpose and services. Finally, communications channels are how the patterns in the Self-Organizing Landscape are explained and shared.

**Continuous Assessment** is the ongoing collection, analysis, and sharing of data that describe performance against established expectations of fitness. From the beginning, initiatives are intended to serve a purpose. It may be to improve employee satisfaction, to increase the market share, to comply with federal regulations, or to apportion out employee parking places on a fair and equitable basis. The first level of continuous assessment is to measure against the original need to determine the overall effectiveness or success of an initiative.

Throughout the development and implementation phases, assessment plays an important role in helping to understand the organization and environment and how best to bring the initiative into the system. Assessment helps formulate the picture to understand the conditions that will make the initiative fit. Through data collection and analysis, the change agent can determine the degree and ways other parts of the organization are responding to or anticipating the initiative. Effective communication requires that change agents collect the information they need to understand what people do or don't know, what they want to know, and how best to get the information to them.

Think about the impact of creating and implementing an innovation that has no connection to what people want or need—or one that loses touch with what is needed while it is being developed—or an innovation is fully implemented without any way of measuring its effectiveness or success. It is difficult to imagine that kind of across-the-board arrogance, but everyone has seen initiatives that skip one or more of those steps, and then later pay the price in how they are not accepted, implemented, or supported by the organization. Their sustainability is less likely because of the lack of continuous assessment.

**Coherence** is described by Glenda Eoyang, Ph.D., as resulting in

- reduced internal tension,
- complementary functions,
• repeated patterns across scales,
• shared meaning throughout,
• shared goals, and
• conserved energy.

If we think about the most effective and efficient situations, these characteristics would describe them. In working for sustainability, steps that are taken to increase any of these will increase the chances that an initiative will be sustained. Initiatives that increase coherence contribute to the overall productive patterns of the organization. Communications about the initiative can be openly received when they are coherent with the needs of the audience and organization. When the initiative increases or contributes to coherence, there is better fit, and it is more likely to be sustained.

The role of the change agent is to ask continuously if, in fact, the change initiative is bringing about those six characteristics of coherence. If the initiative is falling short in some area, the next task of the change agent is to find out why that is the case and take steps to remedy it.

**Constructs** refers to all of the models, structures, and resources that contribute to the planning and implementation of the initiative. What goes into the planning, from the earliest design phase to the last of the full implementation? What are the design models used? What planning models are most useful? How were resources garnered and then allocated in support of the initiative?

In a complex human system these constructs emerge from basic concepts or ideas that are used to formulate, design and plan the initiative. By understanding the conditions that exist across the organization, among the customer base, or wherever the target of the initiative is, change agents are better equipped to use the models and conceptual frames that will increase sustainability.

By using concepts, models, and tools that are consistent with the patterns in the organization, change agents move the innovation toward greater Certainty and Agreement. For example, when a common pattern across the organization is the use of shared decision making, a change agent who used a planning process that took little or no input and that held all decision making in the power position would push the process further out toward the random, Unorganized Landscape. There would be more problems with gaining understanding and support. There would be less Agreement about the initiative and less Certainty about its place in the organization. When the constructs of an initiative don’t match the existing patterns, the ultimate product will not find fit within the environment.

Documentation is an important part of the constructs of the initiative. Too often initiatives are put in place and remain dependent on
the individual or individuals who “sponsored” them in the first place. When those individuals leave, the initiative often sputters and dies. This can be for a number of reasons that have to do with these factors, but one of the easiest to see and remedy is the lack of documentation.

People who put an initiative in place carry most of the important information about it in their heads. They know the development history; they know the connections that were made to find a place for the initiative to exist in the organization; they know the weaknesses and the strengths. They know the lessons learned in the process.

All of these are important to the initiative’s sustainability, and when they are not documented in such a way that they are accessible and usable by others in the organization, it is as though they don’t exist at all.

**Connections** reflect the ways in which the initiative is linked to various parts of the organization. Sustainability of a change effort or initiative depends on strong connections across the organization. Connections can be made in a number of ways, including the following.

- person-to-person understanding and knowledge,
- shared goals,
- shared or contributing work steps,
- understanding and finding “fit” in the patterns of the organization,
- contributing to or triggering co-evolution, or
- collecting and analyzing data about customer wants or needs.

**Commitment** speaks to the support that the initiative has at all levels of the organization. Who are its champions? Who is served by the initiative? What resources are being used to support the initiative on an ongoing basis?

Commitment is stronger when it fits into existing patterns and serves to meet needs across the organization. When an innovation increases Certainty and Agreement, the organization, as a whole, will have a greater commitment to its sustainability. Commitment emerges when the initiative increases the organization’s fit in its environment.

**Capacity Building** outlines the actions that organizations take to prepare individuals and the organization to support an initiative. Training, evaluation, and feedback systems are necessary to assure that employees have the skills they need to do the work of the initiative. Organizational processes and procedures have to accommodate the needs of the initiative as well.
It’s obvious that these factors of sustainability are massively entangled with each other. Commitment increases connections. Communication contributes to coherence. The constructs that formulate the development and implementation of the initiative must be coherent with the existing culture and expectations of the organization. The continuous assessment must provide information that is meaningful and useful to individuals at all levels—it must be coherent with their needs.

Because the factors are massively entangled, it is difficult to tease them out individually and identify which one should be worked on first or last. It is impossible to say which one is most important or least. What is important is that change agents and those who work on the initiative consider all seven questions throughout development and implementation. It is also important that they look to the patterns that exist and to future trends to answer the questions that emerge around each of the factors if the initiative is to continue to meet the requirements for sustainability.

The questions about sustainability continue to guide the work around each of the factors of sustainability as the leader moves forward in developing and implementing any initiative.

Is the initiative sensitive to its environment?

In what ways are we planning for continuous assessment?
• for fit in the environment?
• against success criteria?
• for continuous improvement?

What are the communication plans, avenues, and venues that we are planning in this initiative?
• Who?
• What?
• How?

Is the initiative Flexible?

How coherent is this work within the context of other organizational work?
• with the organizational direction?
• with policies and procedures?
• with external forces and trends?

What are the constructs (models, tools and processes) we are using, and how can we make them explicit and intentional?
• for planning?
• for supports?
• for documentation?
Is the initiative Robust?

What levels of commitment support this effort?
- of individuals?
- of resources?
- of the whole organization?

What connections are we building into our system?
- to current work?
- to other departments and staff?
- to our stakeholders or community?
### These concepts benefit Internal Leaders by helping them...

- Understand each of the factors in light of the characteristics of a complex human system and what that means to them as leaders
- Understand that the factors, themselves, are massively entangled and the implications of that fact
- Use the sustainability questions to guide decision making in the development and implementation phases of change efforts

### These concepts benefit External Consultants by helping them...

- Understand each of the factors in light of the characteristics of a complex human system and what that means in their work to support leaders in organizations
- Understand that the factors, themselves, are massively entangled and the implications of that for their work
- Use the sustainability questions to guide their coaching and support of leaders in organizations
Reflection Questions

1. How can I see these factors—or lack of attention to them—as contributing to the performance of past initiatives I have supported?

2. How can I use these questions and the understanding of the factors to communicate to others their importance?

3. Which of the factors is the most difficult for me to address, and how can I get support in that area?

4. Who else needs to know this information and how can I best share it with them?
Resources


Chapter 4: 
A Change Model for Sustainability
Chapter 4: A Change Model for Sustainability

In a complex human system, the process of change is as important as the initiative itself. Because of the nature of the complex human system—massively entangled, influence of patterns, conditions of self-organization, etc.—a change model must be adaptable enough to respond to the needs of the system. The change model, like the initiative itself, must be

- **sensitive** to its environment so that changing patterns are detected in time to adapt,
- **flexible** enough to respond to changing patterns and to continue meeting the original need, and
- **robust** enough to withstand emergent challenges and changing patterns in the organization.

The Maturity Model of change is one that fits these requirements.

**Maturity Model of Change**

- **Unknown Work**
  
  Ideas and opportunities exist that we don’t know anything about.

- **Learning Work**
  
  We begin to learn about new ideas.

- **Adaptive Work**
  
  We begin to adapt the new ideas to fit our systems.

- **Control Work**
  
  The new idea has been integrated into the system and is part of the expectations.

As new ideas are brought into the system and through each of the stages of learning and adaptation, an explosion of communication should share this information across the organization.
Created by Dennis Cheesebrow, this model clearly takes into account the characteristics of a complex human system and describes the development and implementation processes in ways that match those demands.

The model describes the change process as it moves from the first awareness that something needs to be done through the research and study phase to see what will best meet the needs of the organization, through the process of implementation and adaptation in the system, to the point where the initiative has become operational. At each step, it is important to pay attention to the factors of sustainability and think ahead to assure that the initiative meets the requirements for sustainability.

Each stage of the change process influences the sustainability of the initiative and should be carefully considered by those involved in the change effort. In all of these phases, each of the factors of sustainability are important.

**Unknown Work** represents the stage of change when individuals in the organization are just beginning to perceive that the patterns are shifting and that a change might be in order. The work at this stage is to collect data, watch the patterns and be alert to random events that might presage future patterns. In this stage, leaders need to “hang out” in the Self-Organizing Landscape, observing, watching for trends, and paying attention to shifting patterns. They also spend time in the Unorganized Landscape, watching random events, making sense of what is happening.

**Learning Work** involves research and exploration of options and ideas once the trends and patterns indicate possible future shift. In the Learning Work, change agents use data to describe the challenge and look for options and answers to that challenge. This phase ends when a solution is chosen and the decision is made to implement.

**Adaptive Work** is the hardest work for some organizations, and it is the most critical. In this phase, the innovation is brought into the organization, and adaptations of both the initiative and the workplace assure its fit. Policies are implemented; processes and procedures are developed; people are trained, and the innovation becomes a part of the organization.

How often is it taken for granted that the Adaptive Work will be done and so it receives little attention from those who are committed to implementation? While the factors of sustainability have been important up to this point, in Adaptive Work, they become crucial because this is the most sensitive time for the initiative to find its fit in the system.
What Constructs will move it forward and build the foundation? What Communications paths are important? How can the initiative be Coherent in the system? What is the Commitment across the organization? How will the initiative and its impact on the organization be Assessed? What Connections will best support the initiative? How is Capacity Built in the organization to support the new ways?

**Control Work** happens after the initiative is fully implemented and refers to the ongoing use of the sustainability factors to assure that the initiative continues to meet the needs of the organization. Shifts in organizational patterns, new data, challenges to the structures as they have been developed, and other information is used to maintain the power and influence of the initiative long after it has been integrated into the day-to-day operations of the organization.

**Leaving the System** refers to the process of identifying what is no longer necessary in the system as the initiative is put in place. What procedures, actions, and attitudes have to be eliminated to make a space for the innovation?

As the work progresses through each stage of the model, small explosions of communication should inform the organization of the progress and plans that are being made. This is one piece of the Communications plan that is part of sustainability, but it also contributes to the other factors as well. Communications can emphasize issues of coherence and commitment. Data and information can be woven into the message. Communications should be shared about how the initiative is connected across the organization. Models and conceptual frameworks can be shared.

Throughout the change process, sustainability is an issue. Change agents are responsible for considering the factors of sustainability at each stage of planning and implementation.

Those factors and the questions that they raise form the backdrop for assuring that the initiative is sensitive to the environment, strong and flexible enough to change as it needs to, and robust enough to withstand the challenges of a changing environment over time.
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- Understand a model of change that takes into account the special characteristics of a human complex adaptive system
- Use the Maturity Model of Change to guide change in their environments
- Use the factors of sustainability throughout the development, implementation, and operational phases of change
- Understand a model of change that takes into account the special characteristics of a human complex human system
- Use each of the factors of sustainability to increase their impact on the work of change
- Support the work that is needed to take an organization through the phases of change
- Understand the relationships between the sustainability factors and the work of the change agent in the organization
Reflection Questions

1. In what ways does this model of change compare to my previous experiences of being a part of a change process?

2. In what ways can I shift how people in this organization think about change in a complex human system?

3. How can I bring this change model into the work of this organization?

4. Who else needs to know this information and how can I best share it with them?
Resources
Section II

Sustainability Tools

- Sustainability Reflection Questions
- Sustainability Rubric
Sustainability
Reflection Questions
Reflection Questions

The questions on the following pages were designed to help you think about the implications that may exist for your organization as you consider sustainability in a particular initiative. While almost 50 questions is too many to consider at every turn, there are a number of ways these can be used to guide your work.

- In the beginning, hold a discussion about the three requirements and the factors that support them. Use the questions to talk about the implications for your organization.

- Use the questions for periodic reviews of the various aspects of your change process.

- Ask the individuals who are leading the change to identify those questions that are most pertinent to their work and use them to guide their decision making and problem solving.

- Using these more generic questions as a starting point, work with those who are involved in the change initiative to develop additional questions that reflect your own, unique situation.

- At intermittent breaks during the change process, take time out to use the questions as a completeness check to see if all the bases have been covered, or as a way to gather the “lessons learned” in the process up to this point.

However you use them, reflection on these questions can help you gain valuable insights as you design and implement change in your organization.
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Sustainability Rubric
Rubric

The following pages contain a rubric for you to use in assessing the factors of sustainability. Each page contains descriptors of what you might see in an organization at various levels. Level One Descriptors reflect low performance in each of the factors, with Level Three being right at acceptable, and Level Five as outstanding support and involvement. The higher the level of performance on each of the factors, the greater the chances of sustainability.

There are a number of ways this rubric can be used.

- Use it at the launching of an initiative to guide a discussion about what is desired at the end of the work.

- Use it throughout the planning and implementation process as a checkpoint for assessing the work that has been accomplished. Of course the initiative will not reflect the descriptions that are under the higher levels, but they will provide targets for planning the work that remains.

- Use it toward the end of the implementation phase and in early operations to assure that the initiative is being embedded into the operations of the organization.

This type of assessment tool is valuable throughout the process to guide thinking and as a cornerstone for conversations around decision making and problem solving.
<table>
<thead>
<tr>
<th>Factors</th>
<th>Level 1 Descriptions</th>
<th>Level 3 Descriptions</th>
<th>Level 5 Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications</td>
<td>Information about implementation and operations is sketchy or non-existent.</td>
<td>People have information they need to assure effective implementation and operation.</td>
<td>Information about the initiative is freely available to the entire organization.</td>
</tr>
<tr>
<td></td>
<td>Confidentiality and boundaries are not considered.</td>
<td>People understand when there is information that must be confidential and respect those boundaries.</td>
<td>People are supportive of each other and share information appropriately and respectfully.</td>
</tr>
<tr>
<td></td>
<td>Communication is sketchy and limited.</td>
<td>Communication is shared across a number of venues to various audiences.</td>
<td>Communications about the initiative are integrated into ongoing communication from the organization.</td>
</tr>
<tr>
<td></td>
<td>Communication is shared as one message, regardless of audience.</td>
<td>Communication messages are appropriate to intended audiences.</td>
<td>Communications are engaging and accessible to all audiences in the organization.</td>
</tr>
<tr>
<td></td>
<td>Communication messages are not engaging and cause confusion and frustration.</td>
<td>Communications messages are conveyed appropriately.</td>
<td>Communications engage the community to assure shared vision of the initiative as part of the organization’s work.</td>
</tr>
<tr>
<td></td>
<td>Information about the initiative is inconsistent and difficult to obtain.</td>
<td>Communications tools support staff in “marketing” this initiative (i.e., funding, public engagement, etc.).</td>
<td>Communications about the initiative contribute to successful customer engagement and further funding opportunities.</td>
</tr>
<tr>
<td>Factors</td>
<td>Level 1 Descriptions</td>
<td>Level 3 Descriptions</td>
<td>Level 5 Descriptions</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td></td>
<td>The initiative is developed with little or no consideration of the needs of the department’s customers, present or future.</td>
<td>The initiative meets the needs of the department’s customers today as well as those projected in the near future.</td>
<td>The initiative adapts as needed to continue to meet needs of customers, when changes make future projections inaccurate.</td>
</tr>
<tr>
<td></td>
<td>The staff members see no relation between the initiative and their ongoing needs.</td>
<td>The staff members understand and assess the initiative’s fit for their needs on a continuing basis.</td>
<td>The staff members adapt the initiative as the needs of the department shift.</td>
</tr>
<tr>
<td></td>
<td>No success criteria are developed to assess the effectiveness of the initiative.</td>
<td>Established success criteria are used to assess its success on an ongoing basis.</td>
<td>Initiative success criteria are integrated into existing success criteria for the department.</td>
</tr>
<tr>
<td></td>
<td>Success criteria are developed, but do not address needs of the organization.</td>
<td>Success criteria address current needs of the entire organization.</td>
<td>Initiative success criteria shift as the needs of the organization shift.</td>
</tr>
<tr>
<td></td>
<td>No assessment procedures monitor ongoing success and effectiveness of the initiative.</td>
<td>Assessment procedures monitor the ongoing success and effectiveness of the initiative.</td>
<td>Ongoing assessment provides data for decisions about adaptation of the initiative.</td>
</tr>
<tr>
<td></td>
<td>Shifting needs of the organization are ignored.</td>
<td>As the needs of the organization shift, success criteria reflect that.</td>
<td>Ongoing assessment procedures and criteria reflect the changing needs of the organization.</td>
</tr>
<tr>
<td></td>
<td>No periodic review of the initiative is developed.</td>
<td>Plans provide for periodic review and adaptation of the initiative as new needs arise.</td>
<td>Periodic reviews of the initiative lead to increasing effectiveness.</td>
</tr>
</tbody>
</table>
# Strengths, Flexibility

<table>
<thead>
<tr>
<th>Factors</th>
<th>Level 1 Descriptions</th>
<th>Level 3 Descriptions</th>
<th>Level 5 Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coherence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal Direction</td>
<td>The initiative is not related to the organization’s vision, programming, or existing needs.</td>
<td>The initiative is consistent with the organization’s vision, programming, and existing needs.</td>
<td>The initiative is fully integrated into the organization’s vision, programming, and existing needs.</td>
</tr>
<tr>
<td>Internal Policies &amp; Procedures</td>
<td>The initiative is not related to the organization’s underlying expectations about working together toward common goals.</td>
<td>The initiative is consistent with the organization’s underlying expectations about how to work together to accomplish common goals.</td>
<td>The initiative is a part of the organization’s overall expectations about working toward common goals.</td>
</tr>
<tr>
<td>External Forces and Trends</td>
<td>The initiative has no relation with the department’s existing policies and procedures.</td>
<td>The initiative is consistent with the department’s existing policies and procedures.</td>
<td>The initiative is integrated into the department’s existing policies and procedures.</td>
</tr>
<tr>
<td></td>
<td>The initiative has no relation with the organization’s existing policies and procedures.</td>
<td>The initiative is consistent with the organization’s existing policies and procedures.</td>
<td>The initiative is supported by the organization’s existing policies and procedures.</td>
</tr>
<tr>
<td></td>
<td>The initiative ignores expectations from state and national regulations and programs (Title IX, Affirmative Action, etc.).</td>
<td>The initiative is consistent with expectations from state and national regulations and programs (Title IX, Affirmative Action, etc.).</td>
<td>The initiative is designed to carry out expectations from state and national regulations and programs (Title IX, Affirmative Action, etc.).</td>
</tr>
<tr>
<td></td>
<td>The initiative was designed without consideration of the needs and concerns of customers and other stakeholders.</td>
<td>The initiative is designed to address the needs and concerns of customers and other stakeholders.</td>
<td>Ongoing assessment data reflects that the initiative addresses the needs and concerns of customers and other stakeholders.</td>
</tr>
</tbody>
</table>
## Strong, Flexible

<table>
<thead>
<tr>
<th>Constructs for Planning</th>
<th>Level 1 Descriptions</th>
<th>Level 3 Descriptions</th>
<th>Level 5 Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The goal of the initiative is unclear and unfocused.</td>
<td>The goal of the initiative is clear and unambiguous.</td>
<td>The goal is clear, unambiguous and “owned” across the organization.</td>
<td></td>
</tr>
<tr>
<td>Planning for development and implementation is non-existent.</td>
<td>Long-range planning maps the direction and general path of the initiative.</td>
<td>Long-range planning engages people in assuring the direction and general path of the initiative.</td>
<td></td>
</tr>
<tr>
<td>The initiative is unable to adapt to changing needs in the department</td>
<td>Day-to-day planning allows the initiative to adapt to the changing needs of the organization.</td>
<td>Ongoing planning assures initiative continues to produce high-quality outcomes.</td>
<td></td>
</tr>
<tr>
<td>There is no support among upper management for the work.</td>
<td>A “champion” who has authority supports the work.</td>
<td>A champion who has authority supports and actively advocates for it.</td>
<td></td>
</tr>
<tr>
<td>There is little or no commitment to maintaining the work of the initiative.</td>
<td>Committed individuals work to achieve the purpose.</td>
<td>Committed individuals are provided resources and support as they work to achieve the purpose.</td>
<td></td>
</tr>
<tr>
<td>Time is not allocated for ongoing planning and assessment of progress.</td>
<td>Time is allocated to allow for ongoing planning and assessment of progress.</td>
<td>Time and other resources are provided to assure ongoing planning and assessment of progress.</td>
<td></td>
</tr>
<tr>
<td>There is little or no training or development to support the initiative.</td>
<td>Ongoing training and development support the initiative.</td>
<td>Training and development support the initiative and are integrated into the organization’s expectations.</td>
<td></td>
</tr>
<tr>
<td>Processes and procedures are dependent on the people who run them with little or no documentation.</td>
<td>Processes and procedures that support the initiative are documented and publicly “owned.”</td>
<td>Processes and procedures that support the initiative are documented and integrated into the general processes and procedures of the organization.</td>
<td></td>
</tr>
<tr>
<td>There is no historical documentation or celebration of accomplishments.</td>
<td>The historical documentation tells the “story” of the initiative and celebrates accomplishments.</td>
<td>The history of the initiative has been integrated into the history of the organization and is celebrated with all other accomplishments.</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>The initiative is seen by the staff as an “add on” responsibility.</td>
<td>The initiative easily integrates into the current work of the department.</td>
<td>The initiative is embraced by the organization as a part of its ongoing work.</td>
</tr>
<tr>
<td></td>
<td>The initiative does not match ongoing organization-wide work in.</td>
<td>The initiative fits into the ongoing work of the organization to meet customer needs.</td>
<td>The initiative is fully integrated into the ongoing work of the organization.</td>
</tr>
<tr>
<td></td>
<td>Staff from other departments are involved haphazardly or not at all.</td>
<td>Staff from other departments are involved appropriately in planning and implementation, as well as in the ongoing operations of the initiative.</td>
<td>Other departments and areas are fully integrated into the initiative to assure match and mutual support for outcomes.</td>
</tr>
<tr>
<td></td>
<td>Staff members have no ideas about other departmental staff people who can support them in this initiative.</td>
<td>Staff members are aware of other departmental personnel who can help them as they implement and operate the initiative.</td>
<td>Other departmental personnel are fully involved in development and implementation of the initiative.</td>
</tr>
<tr>
<td></td>
<td>There is little or no involvement by customers or business partners.</td>
<td>The staff members have identified ways to connect with customers and business partners to support the initiative.</td>
<td>Customers and business partners are involved in and support the initiative in a number of ways.</td>
</tr>
<tr>
<td></td>
<td>No communications are planned for engaging customers in supporting the initiative.</td>
<td>Employees have planned for communicating with customers about the initiative and how their services will be improved.</td>
<td>Customers understand the initiative and actively support the department’s participation in the initiative.</td>
</tr>
<tr>
<td></td>
<td>Community resources are not considered in planning for the initiative.</td>
<td>Community resources are sought to support the initiative, when appropriate.</td>
<td>Community resources are integrated into the ongoing support of the initiative.</td>
</tr>
</tbody>
</table>
### Commitment of Individuals

<table>
<thead>
<tr>
<th>Robust</th>
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<tr>
<td>Little or no commitment supports the initiative; it is “owned” by small group, or has been mandated without local support.</td>
<td>Individuals are committed to the initiative from the beginning and assure effective implementation.</td>
<td>Commitment to the initiative is wide-spread with all staff taking ownership in its development and implementation.</td>
<td></td>
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<tr>
<td>Ongoing commitment to and existence of the initiative depends on small group.</td>
<td>Individuals continue to be committed to the initiative over time.</td>
<td>The initiative and its ongoing success are important across the organization.</td>
<td></td>
</tr>
<tr>
<td>Implementation is supported by resources as they might be available.</td>
<td>Resources are committed to assure the successful development and implementation of the initiative.</td>
<td>The organization provides resources to assure successful development and implementation of the initiative as well as for operational support.</td>
<td></td>
</tr>
<tr>
<td>Each year, the initiative’s ongoing support is dependent upon budget decisions.</td>
<td>Resources are committed over time to assure its ongoing effectiveness.</td>
<td>Resources for the initiative are integrated into ongoing budgeting processes from year to year.</td>
<td></td>
</tr>
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<td>The leadership pays little or no attention to the effective development and implementation of the initiative.</td>
<td>The leadership commits to the effective development and implementation of the initiative.</td>
<td>The leadership is involved in the effective development and implementation of the initiative.</td>
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<td>The leadership pays little or no attention to the ongoing work of the initiative.</td>
<td>The leadership commits to supporting the ongoing work of the initiative.</td>
<td>The leadership actively supports and is involved in the ongoing work of the initiative.</td>
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<td>Management provides little or no support for the initiative.</td>
<td>The organization supports the initiative as it does other programs.</td>
<td>The organization actively supports initiative above other programs.</td>
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### Commitment of Resources

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Section III

Figures

- Complex Adaptive Systems
- Landscapes of Complexity
- Co-Evolution
- Sustainability Model
- Maturity Model of Change
Complex Adaptive Systems

Semi-autonomous agents (people)...

interact in unpredictable ways...

that lead to system-wide patterns...

and those patterns then reinforce the actions of the agents.
Landscapes of Complexity

- Close to Agreement: Organized
  - Work on Process
  - Amplify Productive Patterns

- Far from Agreement: Unorganized
  - Expect the Surprises
  - Look for the Patterns

Close to Certainty

Far From Certainty
Co-Evolution

The parts of the system are massively entangled...

such that a change in one area and/or relationship...

will cause unpredictable changes in other parts of the system...

which will, in turn cause unpredictable changes in other parts of the system...
Legacy
Sustainability Model

Legacy
If an anthropologist came to your business 15 years from now, what would be the evidence (tracks, artifacts, symbols) left from your work in this change process?

Connections
To Current Work
To Other Departments and Staff
To Community/Customers

Sustainability Issues
What factors influence sustainability?
What questions do we ask to assure sustainability in our work?

Commitment
Of Individuals
Of Resources
Of the Institution

Communications
Who?
What?
How?

Constructs
For Planning
For Resources
For Documentation

Coherence
Internal Direction
Internal Policies & Procedures
External Variables

Continuous Assessment
For “Fit”
For Success Criteria
For Continuous Improvement

Capacity Building:
All this is done within a context of ongoing training and development.
Unknown Work

Ideas and opportunities exist that we don’t know anything about.

Learning Work

We begin to learn about new ideas.

Adaptive Work

We begin to adapt the new ideas to fit our systems.

Control Work

The new idea has been integrated into the system and is part of the expectations.

Identify what needs to leave the system...

As new ideas are brought into the system and through each of the stages of learning and adaptation, an explosion of communication should share this information across the organization.